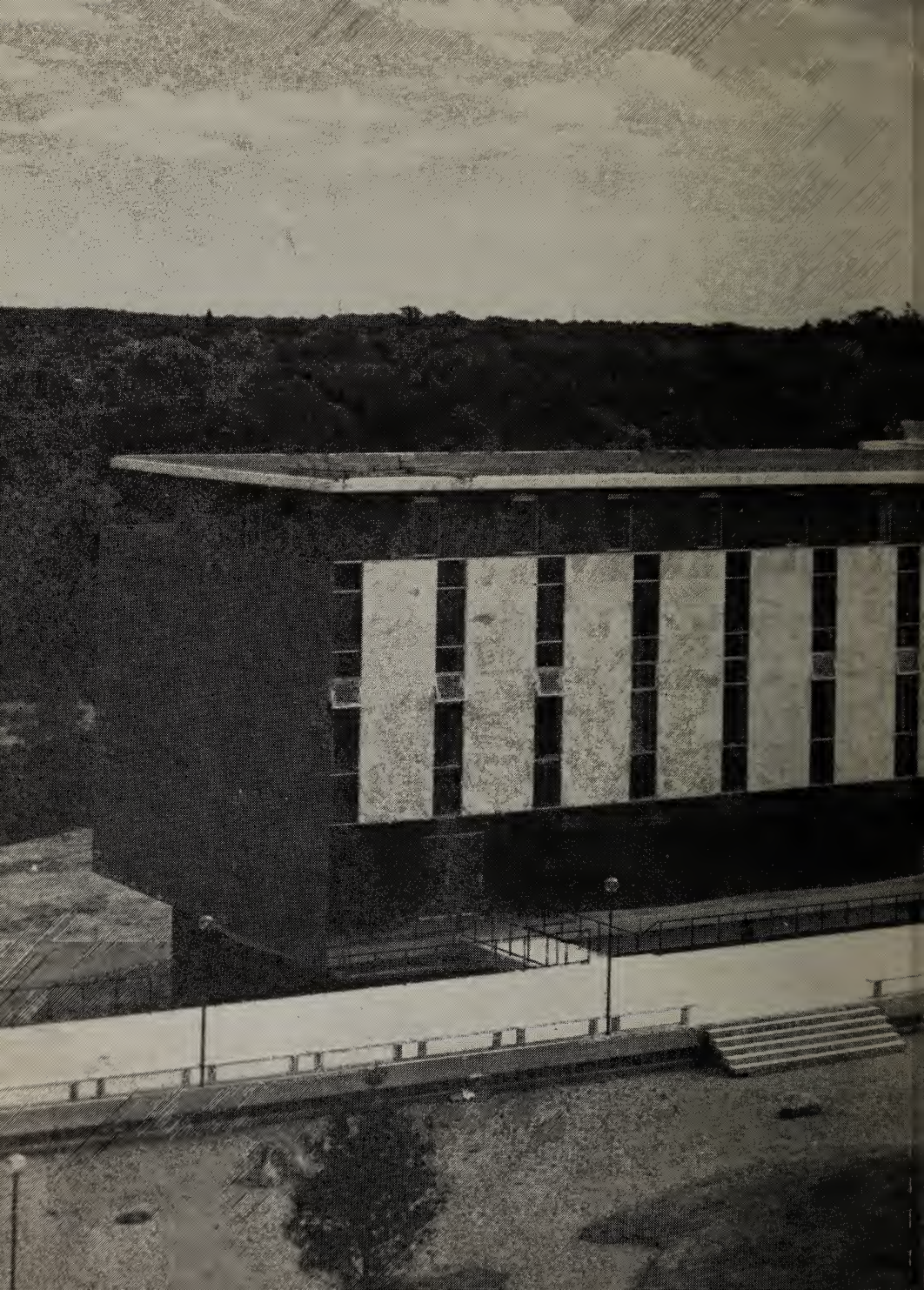


THE PRESIDENT'S REPORT

CARLETON  
UNIVERSITY

OTTAWA

1959-1960



THE PRESIDENT'S  
REPORT

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CARLETON UNIVERSITY

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1959-1960

*This Report of the President of Carleton  
University was printed in November 1960  
by National Printers Limited, Ottawa, Ontario*

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# I: REPORTS

## REPORT OF THE PRESIDENT

Carleton became established on its new campus just as the 1960's opened. The new academic year began formally on the new campus, but with Norman Paterson Hall still not finished. The consequence during the first few months of term was a pell-mell of improvised classrooms, shifting of lectures, shuttling of faculty members to and from offices still in the old building, and a certain atmosphere of bewilderment.

Many non-academic problems had to be faced. There were arrangements to be made with the Ottawa Transportation Commission for a special bus service, at a cost to the University. The cafeteria proved to be quite inadequate in size for the number of students who wished to spend all day on the new campus, and a canteen had to be improvised in an unfinished part of the library building.

Not everything was complete or perfect in the new buildings, and administrative officers and many faculty members spent strenuous months labouring to have various facilities put into final shape. At the same time, the year's teaching had to be pressed ahead. In effect, Carleton went through the pangs of putting a new \$6,500,000 plant into operation—a process which would be trying for even a non-academic institution. Some students seemed a little disturbed by the space, cleanliness, and light in the new buildings; and there were complaints about “difficulties of communication” when everybody no longer saw everybody else every hour or so in one main hallway. In general, the move had a considerable psychological impact on the whole academic community.

After the turn of the calendar year, most things seemed to fall into place. Norman Paterson Hall had been completed and brought into use. Lecture rooms and offices could be allocated as planned. Various

facilities were brought into good working order. Feelings of strangeness disappeared, and the new campus truly became the home of the University.

The buildings were opened by Premier Leslie Frost on February 12th. That day and the next some 10,000 people came to tour them, most to admire them warmly. Visitors from other universities were especially vigorous in their praise of the conception of the new Carleton. In the latter part of the year, the realization grew that Carleton has now a superbly designed set of buildings and excellent facilities for teaching, study, and research.

In spite of the inconveniences of the first few months, it was a good academic year. This was proven by the examinations in the spring when the failure rates dropped considerably below those of the year before. The percentage of failures in the important second year, which follows senior matriculation, came down to 20% in arts and 30% in science, compared with 26% and 38% respectively a year before. The improvement, certainly not due to any softening of the rigorous standards at Carleton, probably came from a combination of causes. More people seemed to be working harder this year on the new campus. The library, which at Carleton has always had high circulation figures in relation to student enrolment, was used a good deal more. Greatly improved laboratory and teaching facilities certainly helped in a number of science and engineering courses. The new system of informal supervision of second year students by individual faculty members seemed to have a good effect, at least in some cases. Somehow, for various reasons, a number of which were connected with the new campus, more students seemed to put more into, and get more out of, their year. The higher proportion of passes, combined with higher enrolment meant that a sharply increased number of students were eligible to return to Carleton and advance to the next year's work.

Failure rates are still too high, and are a cause for continuing concern. Carleton does not plan arbitrarily to raise admission standards to levels that would probably ensure higher pass percentages, but would, at the same time, exclude a number of people who, according to our experience, could go on to satisfactory university work. The raw matriculation marks, in general, have not proven to be accurate enough predictors. We are, however, continuing to study admission standings

in relation to later results, and to act when the evidence seems clear. As the result of such studies, for example, the requirement for entrance to second year science has been raised for the future to third class standing in mathematics and science subjects. We have seen many indications of students who are inadequately equipped attempting science courses. It is possible that all the publicity given science in recent years has led some people without the requisite aptitudes into seeking a scientific training. In any case, the gap between school and university work seems greater on the science side than on the arts side. I believe that more attention and support should be given to the teaching of mathematics and science in our schools to those who are heading for university.

Unlike a number of other Ontario universities, Carleton still maintains a first year which corresponds roughly in level, although not in content and methods of work, to Grade 13 in high schools. In this, it is similar to universities in some other provinces of Canada, and to those of the United States. The required standing for entrance to this first year was raised for 1959-60, but the failure rate remained at nearly the same high level as the year before. This first year has been a useful gateway to university work for some students coming to Ottawa from areas where senior matriculation is not readily available, to some mature matriculants, and to some good students who wish to move early from the school type of work to the university kind. It is apparent, however, that a large number of students who have received quite good junior matriculation marks from Ontario schools are not adequately fitted for the year. This is in spite of the fact that according to their official standing they should be ready for work in many Canadian and United States universities.

I believe that experience with our first year at Carleton is additional evidence that students preparing for university are not getting intensive enough work in the first four years of high school in Ontario. When they come with senior matriculation standing, we often wish they had been able to spend more time in their last school year going more deeply into some subjects, and learning to work at least partly in the university way. I believe this would be possible, and that we would have more young people truly ready for university, if they had more intensive work during the earlier years of high school, and probably

the last years of elementary school.

At the same time, I do not believe in putting all the blame for university failures on the schools. At Carleton, we will continue trying to improve our efforts to show students how to work, and to impart the excitement of learning the university way. What counts most of all is the individual himself and his will to learn; the determination that comes from something inside himself—something which in large part will have been decided by the early influences around him.

A still disappointingly small number of new students are aiming for honours work. Requirements for entering honours at Carleton are high, and an extra year for a first degree is usually involved. But a number of capable young people do not seem to realize the impetus to their later careers, and the greater insights and interests that can come from honours work. The University itself can have some influence after they are here, but advice and inspiration before they come to the University are still more important.

Carleton continued to develop as an academic community in 1959-60. The full-time student body rose by 14% to 857, continuing the steep upward movement of recent years. Part-time degree course students numbered 916. Approximately 40% of the new entrants were from outside the Ottawa area. There were 71 students from 20 other countries, including a group of government officials, brought under Colombo Plan arrangement, to take a special year's course in public administration.

At Convocation, held outside on the new court on a happily fine day, 137 degrees were awarded. Of these, one was a Master of Arts, one a Master of Public Administration, nine were Bachelors of Arts with Honours, and three were Bachelors of Science with Honours. Dr. Claude Bissell, M.A., Ph.D., LL.D., D.Litt., F.R.S.C., President of the University of Toronto, gave the convocation address in the setting of the new buildings for which he had worked and planned so hard. He received the degree of Doctor of Laws, *honoris causa*, together with George Garfield Croskery, Yousuf Karsh, and Alice Evelyn Wilson, B.A., Ph.D., F.R.S.C.

The full-time faculty grew to 74 as additional appointments were made in economics, history, sociology, Spanish, philosophy, chemistry, geology, and engineering. Part-time teaching staff numbered 48. Carle-

ton is very fortunate in its location in Ottawa which enables it to draw on a number of extremely able and well-qualified people to provide valuable help in teaching courses on a part-time basis.

Dr. John Ruptash, as the new Director, lead the advance of the School of Engineering into third year work, and the planning of the fourth year in 1960-61. Some modifications were made in the fourth year curriculum to make fuller provision for areas of concentration.

Graduate studies have been moving steadily ahead, and it was found advisable during the year to provide more definite administrative supervision for them. A School of Graduate Studies was formally established, and the Associate Dean, Dr. M. S. Macphail, B.A., M.A., D.Phil., F.R.S.C., was appointed the Director. Dr. H. H. J. Nesbitt, M.A., Ph.D., D.Sc., F.L.S., was appointed Director of the Science Division, to take over the responsibilities in this sphere formerly carried by the Associate Dean. A number of applications during the spring will necessitate the considerable development of graduate work during the coming year. In addition to the regular graduate students, two post-doctoral research fellows will be at work in geology.

The Institute of Canadian Studies had an active year, with five graduate students working under its guidance. The Institute sponsored the series of lectures given by Dr. Nathan Keyfitz on "The New World of South Asia." It also organized a lively, week-long seminar on "The Angry Thirties" to which a number of guests came from outside the University.

During the fall term, members of the Carleton faculty gave a series of lectures on Darwinism, celebrating the centenary of the publication of *The Origin of Species*, which drew overflow crowds. The Alan B. Plaunt Memorial Lectures, given this year by Dr. Jean-Charles Falardeau of Laval University on "Roots and Values in Canadian Lives", once again drew a great deal of public attention.

In partial response to the urgent needs of the developing work at the University, the rate of accession to the library was stepped up by two-thirds, and the staff sizeably increased. Library needs will continue to be pressing.

The Students' Council and the affiliated student organizations had an active year in dealing with many new questions that arose with the move to the new campus. Mr. Norman Fenn, Director of Athletics,

was appointed to the additional post of Student Affairs Adviser. In this capacity he has the responsibility for dealing on behalf of the administration with student matters other than academic.

As predicted, the University incurred a heavy operating deficit, amounting to \$187,000 in 1959-60. An increase in expenditure of \$318,500 was due in part to the higher operating costs of the new building and facilities, and in part to the additions to the teaching strength needed to carry forward the work which Carleton is offering. Revenues rose by \$192,400. Income from fees increased by \$91,700 as a result both of higher enrolment and higher charges to students. The provincial grant was \$400,000 as against \$325,000 the year before.

In budgeting for the coming year, additions to staff, increases in salaries, and maintenance costs, have been kept to a bare minimum. Unavoidable increases in expenditures, however, will amount to some \$160,000. The University asked for an increase in the provincial government grant of \$246,000. The grant for 1960-61, however, was raised by only \$75,000, leaving the prospect of a deficit of the same magnitude as for 1959-60. In this situation, the Board decided to maintain the teaching capacity of the University, even though the deficit will again have to be met by borrowing.

The University, however, cannot continue to pile up debt to meet current costs. Unless the provincial grant is substantially increased for 1960-61, it appears that Carleton will simply have to curtail some of its teaching.

Such a cutting back would appear entirely contrary to the needs of the 1960's. The real surge into the universities of young people born after the war is coming in the next few years, and more than ever before the need will be for quality as well as quantity in higher education. Some universities in this part of Canada already have their maximum enrolment in sight.

Carleton now has a core of fine teaching facilities which can be readily expanded. It has a strong body of teachers and scholars to which future strength can be readily added. Its graduates have been found good by many other institutions. The graph of enrolment has been sloping sharply upwards and will undoubtedly continue to do so, if needs of qualified students are to be met. It would seem ridiculous, and tragic, if this growing centre of teaching and research were weaken-

ed by lack of some dollars, just when the need for more and better higher education, and more intensive search for knowledge, will be so great in Ontario and all Canada.

Ontario has some fine traditions in education, but according to my observations several other provinces are now supporting higher education more fully proportionately than is this province. One minor indication of this is the salary offers made by universities in some other provinces to members of the staff of Carleton and some other Ontario universities. I believe that unless support increases, higher education in this wealthiest and most populous of the provinces may fall behind that provided in some other parts of Canada.

The first need of Carleton, and I believe of other universities, is for the assurance of adequate basic support for operating purposes from public funds, reasonably related to the size of its student body, the kind of work it does, and its rate of growth. The levels of university fees in Ontario are now the highest in the country. While some further increases in fees undoubtedly have to come, very large additional charges to students would deprive many qualified young people of the chance for higher education.

Carleton is deeply grateful to its friends, both individual and corporate, who have contributed to its current costs, and help to make it possible to move ahead. But the bulk of support needed for higher education suitable to the modern age must come from the public as a whole. If our society wants its able young people to have the chance of reaching a measure of their potentialities, if it does not want to fall behind other nations in things of the mind, it will have to pay for the kind of higher education and search for knowledge that the age calls for.

The next need of Carleton is for additional capital facilities. At the rate at which enrolment is growing, an additional teaching building to serve both arts and science would be badly needed by 1962. Office space is already inadequate for arts faculty members. The growth of advanced studies already will mean that next year graduate work in geology will have to be carried on in the old building on First Avenue.

Another pressing need is for student living accommodation. Some people outside universities do not appreciate the value of residences; most people familiar with university life give them great importance.

Experience in many places has shown that students away from home work better, and get more out of a university, if they live in residence rather than in scattered lodgings. Young people from homes outside university cities are already at a heavy disadvantage in obtaining higher education. I believe that the least we can do is to provide the residences for them, with, of course, cost to them. Residences will help Carleton do its part in meeting the needs of the whole province. Together with living accommodation will be needed an eating centre to serve both commuting and residence students. This will relieve additional teaching and working space in the science and library buildings. Planning for new construction has been pursued vigorously during the year, in the hope that the money can be found in time and that the buildings can be ready for 1962.

Carleton is not contemplating expensive additional professional schools or new faculties. It believes that in the foreseeable future it should concentrate on developing its present strength in arts, with related courses in commerce, journalism, and public administration; in the pure sciences; and in its particular kind of engineering course which places emphasis on fundamentals and engineering science. A sound basis has been established for further development in these areas, with effort sensibly balanced among regular undergraduate teaching, honours work, graduate studies, and research. All these aspects are now advancing. Our prayer is that the resources will come to hand for further progress.

Carleton took giant steps ahead in 1959-60. Much was the culmination of long, devoted work by members of the faculty and administrative staff, and of determination and good sense of the Board of Governors. All had been made possible by the generosity of private friends of the University and the contributions of the public through their federal and provincial governments. The hope of the University is that it will in the future be found worthy of the support it needs.

As well as its successes, the year had its sadness. The University lost two of its governors, Mr. F. W. White and the Hon. Brooke Claxton. Mr. White had been one of the staunch supporters of Carleton from its early days. In later years Mr. Claxton had brought his great imagination and enthusiasm vigorously to the support of the University. In him, Carleton, and the best things in Canadian life, lost a great friend.

A. D. DUNTON,  
*President and Vice-Chancellor*

## DIVISIONAL REPORTS

### Report of the Dean

The long-expected move to the Rideau River Campus was completed in November, 1959, when offices were occupied and the first formal classes conducted in Norman Paterson Hall. Equipment was added to the special-purpose rooms (for economics, journalism, geography, phonetics and psychology) as it became available; some of this equipment was in fact installed a scant hour before the Hon. Leslie M. Frost, Q.C. arrived for the ceremony of official opening on 12 February, 1960.

With a certain flair for ceremonial which has now become a tradition, the Fall Assembly was held on the athletic field, with the student audience in the bleachers put into service on that day, and with the faculty walking in procession from the field house. Towards the end of the year, the Convocation for degrees was held, for the first time in the open air, on the main court, with the band of the Royal Canadian Mounted Police to provide the music long associated with St. James United Church which had been the scene of earlier degree ceremonies.

The fact that so much of the physical setting is new has not diverted attention from some of the continuing enquiries into academic performance which have been in progress for some years. We have never been attracted to merely mechanical standards of evaluation of achievement, even though we have "weighed in" various kinds of tests for amplification or verification of particular aptitudes. During 1959-60 we tried out on a substantial scale a system of informal supervision for students entering second year. Groups of six students, chosen to provide a cross section of all programs and to combine those residing in Ottawa with those coming from elsewhere, were assigned to members of faculty (some 47 in all) who offered to help in giving advice

about academic requirements and in encouraging sustained academic work. There was no compulsion about the system. Preliminary reports indicated that for some students the opportunities provided benefit; for a good many others it may have made no appreciable difference. Members of faculty were not required to report individually on students under their supervision. It is probable that in the future development of the plan, groups of students will be more nearly chosen from one discipline or related subjects.

Students registering in the first year were collectively answerable for encouragement purposes to Mr. Norman D. Fenn, who served in the capacity of Student Affairs Adviser in addition to his duties as Director of Athletics. In this work he was assisted by Professors M. S. Hornyansky and R. A. Wendt, and I am indebted to all three of my colleagues for the insight and good temper they have shown. Other members of faculty, under the general leadership of Dr. F. R. Wake, have been available to provide counsel and guidance for students not answerable to a supervisor, or on questions beyond the directions of major departments. I think it can be said that, without putting any artificial emphasis on the place of counselling and guidance, we have been doing a workmanlike job with some of the intangibles bound up in going to college.

The importance which we attach to examinations and examining has been continuously under review: it is a process in which we may never achieve finality, but it is instructive to compare performance by subject of study and by year of study. Two areas of common difficulty have been under intensive notice during the past year: one, the language requirement that corresponds to first-year standing in French, German, and Spanish<sup>1</sup>; and the other, second-year performance in the required courses for patterns involving mathematics and physics.

Despite extensive and continuing publicity to the high schools throughout Ontario, a considerable number of students apply who have not taken French (e.g.) beyond Grade XII, or who (in their language) have been "allowed to drop it." The attitude of mind which goes with this lack, which most commonly applies to French, though

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<sup>1</sup> It is possible to satisfy this requirement alternatively with Greek or Latin or Russian, in which the present enrolment is smaller.

German and Spanish are also affected, creates a considerable hazard for the student and unnecessary hardship for the instructor. The student so minded frequently is spasmodic in attendance, he may be casual about preparation of class assignments or required reading, and he may display such a lack of thoroughness as is revealed in recurring errors of an elementary nature. Even if language study creates in the student no marked enthusiasm and arouses very little curiosity, it is a not unreasonable expectation that it should generate some sense of "feel" for the language, and some sense of intellectual discipline in working in a different idiom. This, after all, is one sound purpose of the study of any language not one's mother tongue.

At the moment we are faced with the difficult choice, either of proceeding at a snail's pace, or of ruling out all save a small minority of gifted students. With increasing opportunities for travel and study abroad, it is a matter for regret that not more students prepare themselves in modern languages. We can only hope that the situation will improve with enhanced instruction in the high schools. During the past year we have had the pleasure of receiving the teachers of French and of German from the Ottawa high schools as our guests, and the University has joined in a number of evenings arranged by the Alliance Française and the Alliance Canadienne. The annual conference of the latter body was held at Carleton University, and several members of faculty spoke at its meetings.

The problems in mathematics and physics are those partly of adequacy (or otherwise) of preparation and partly of application in required courses which have always been considered difficult. Calculus, for example, is required in all of the science degree programs as well as in engineering, and it is recommended for a number of other courses such as honours in economics. The two departments concerned have been giving very close attention to both preparation and performance; both are of consequence in the increasing number of graduate students coming forward in these fields.

For several years we have tried to make available modest grants for faculty travel and research, especially for projects which are not likely to qualify under schemes administered by professional or voluntary bodies. Assistance for travel may range from a grant to attend a committee meeting of some specialist group to a substantial

sum for participation in an international congress; and a later section of this Report will indicate how many interests have been represented in this way. Research grants may be given, in limited amounts, to buy books not otherwise readily accessible which will revert to the University Library after initial use by one individual. Small grants may also be made for copying or microfilming of materials which are likely to be in continuing demand; and assistance is occasionally given towards the cost of offprints from publications not in general circulation in Canada. All such grants have been regarded as a legitimate investment in scholarly work and output, and the consequences on the whole have been very heartening. Leave for study purposes was granted in 1959-60 to four members of the Faculty Board, of whom two were in receipt of Canada Council or other awards. For 1960-61, Senior Research Fellowships were awarded by the Canada Council to three members of faculty proceeding on study leave; two others received assistance from other sources.

During the meetings of the Learned Societies in Kingston (the list now appears to have grown to 31 identifiable bodies), 25 members of faculty attended one or more annual meetings. Papers were presented by three; comments were introduced or sessions presided over by six others. The President was an original elected member of the Canadian Universities Foundation; the Dean was a member of the last executive committee of the National Conference of Canadian Universities which has now formally disappeared as an incorporated body; in turn, it has been replaced by the National Conference of Canadian Universities and Colleges as a delegate body.

Visitors from abroad have come to the campus in considerable numbers. Mention may be made of H.S.H. The Crown Prince of Ethiopia and the Crown Princess; the Ambassadors to Canada of Japan, Denmark, Germany, and Mexico; the Cultural Counsellors of many of the Embassies and High Commissioners' Offices; the Warden of New College, Oxford, Sir William Hayter, K.C.M.G., M.A.; and the presidents of a number of the universities of Canada. A group of Members of Parliament paid a visit; so also did visiting members of the Canada-United States Women's Committee. As landscaping of the main areas proceeds, the campus will continue to be an attractive "off-hour" resort for walking about by young and old.

I have spoken in earlier Reports about the imperious needs of planning ahead; and perhaps the planning function—which involves skill and knowledgability, good humour, toughness and a good deal of give-and-take—has never been more important. Planning for new buildings may seem obvious enough; planning for the staff to instruct the mounting number of students who will flock into present and still-newer buildings is perhaps less obvious but no less inescapable. What seems to me to be of first importance, as Carleton ends its seventeenth and begins its eighteenth year of instruction, is that we should summon up and use for our common purpose every resource of vigour, liveliness and imagination that we can command. We are engaged in a tremendous work of education; there is nothing ordinary about it; and we shall become ordinary in what we think or plan or do at our collective peril. There is, indeed, an inflexible requirement that we shall apply ourselves to all our university tasks with resolution and, it may well be, with courage and good heart. For those who contribute in this way the future looks to be both bright and salutary.

JAMES A. GIBSON,  
*Dean, Faculty of Arts and Science*

## The Division of Science

In the winter of 1959 we began our move into the Henry Marshall Tory Building. This was completed by the middle of the summer of 1959; the laboratories were established in our spacious new quarters, and most of the research projects of the members of the staff were well under way. Much of this work has been made possible through the generous grants of the National Research Council and the J. P. Bickell Foundation. With the move into the new building a considerable re-organization of all laboratory courses has taken place. New equipment has been either purchased or built in our own workshops, and the existing equipment has been modernized. The lecture courses, too, have profited by the move, as it is now possible for the first time to give demonstration lectures in a theatre, where students can see what is happening on the demonstration tables, and where adequate charts and screens are available for visual aids.

During the course of this year, undergraduate studies have advanced in new and expanded courses, the honours work has been maintained at a high level, and graduate studies have developed as rapidly as was advisable, considering the staff, facilities, and commitments of our departments. In all, about ten graduate students have begun their advanced work toward the degrees of M.Sc. and Ph.D. in biology, geology, mathematics and physics.

In addition to these internal studies, a series of five public lectures commemorating the centenary of the publication of *The Origin of Species*, by Charles Darwin, was arranged by the Department of Biology. The Department of Physics, too, contributed to the extension program with a well-attended popular course on "Space Science" and a post-graduate course on "Physics of the Upper Atmosphere." Both these courses drew heavily on specialists from without the Uni-

versity, and from the faculty, and were so successful that we may expect they will become part of the regular departmental offerings.

Turning to a more careful examination of the various departments, I might say that the Department of Biology has continued its fundamental studies with the enlargement of the laboratories and greenhouses, and with the addition of Dr. Frank Wightman to its staff as plant physiologist. The Department of Chemistry has extended its interests into the realm of radio-chemistry with the appointment of Dr. Donald Wiles. The Department of Geology was enlarged by the addition of Dr. W. Tupper as lecturer in petrology and nuclear geology, and is particularly fortunate in having two post-doctoral fellows appointed to its staff for the coming year—Dr. John Moore, the Queen Elizabeth II (Royal Tour 1959) International Nickel Research Fellow, who will be carrying out research in the thermodynamics of metamorphism; and Dr. George Y. Chao, who in open competition received a fellowship from the Viditron Corporation Limited of Ottawa, and Siemens and Halske, A.G., of Germany, for studies in X-ray diffraction and fluorescence spectrometry. The Department of Physics has continued to expand its general laboratory facilities and its specialized work with very good-quality electronic instruments, including a Frequency Standard of high precision, and has introduced what it feels to be an innovation in Canadian universities, viz., a set of fundamental physical standards in a room designed for the purpose. So far, these instruments are restricted to electrical standards of a.c./d.c. transfer, resistance d.c. potential, and a.c. power. A mass spectrometer has been built jointly by the Departments of Physics and Geology to investigate the variants in the relative abundance of atmospheric gases during geological time.

Finally, some reference should be made to the fact that the departments of the Division of Science are vitally interested in the preparation of students for university work, and have taken active means to present the position of the universities to high school teachers and students in an effort to interest senior students and teachers in our research projects and in university work in general.

H. H. J. NESBITT,  
*Director, Division of Science*

## The School of Engineering

The past year, 1959-60, was another significant year in the history of the School of Engineering at Carleton University. The School was established in 1957 when the two-year certificate course, which was originated in 1945, was replaced by a four-year bachelor's degree program. The development of the third year program was completed during the past year. The fourth and final year of the undergraduate program will be introduced in September, 1960. In addition, the School of Engineering will also offer, for the first time, a master's degree program in the aeronautical sciences.

In consultation with faculty members, the engineering degree program committee, and the School of Engineering Advisory Council, significant changes were made in the engineering program of studies. In particular, five options were approved for the fourth year of the program—the engineering physics, engineering science, civil engineering, electrical engineering and mechanical engineering options.

The School of Engineering will be enlarged for the 1960-61 academic year by the appointment of three new full-time members, one of whom is a replacement, and five new sessional lecturers.

The activities of the faculty and technical staff of the School of Engineering during the past year were dominated by the development of the electrical circuits, fluid mechanics, metallurgical, structures and the thermodynamic laboratories. The improvement and extension of these laboratories will be continued during the next year.

Two research projects were initiated this year on a very modest basis. Our limited activity in research is not a failure to recognize its importance. Rather it has been due to the realization that for the present our modest resources should be directed to a vigorous development of our undergraduate program. The faculty members have shown

an excellent sense of responsibility toward the development of the courses and laboratory facilities. I am very pleased with our progress and take this opportunity to extend my appreciation to my colleagues for their very significant contributions of the past year.

JOHN RUPTASH,  
*Director, School of Engineering*

## The School of Graduate Studies

In the spring of 1960 the School of Graduate Studies was established at Carleton, to mark the end of the initial stage, during which graduate work was done by a few students as the opportunity occurred, and the beginning of a more broadly based development. As early as 1952, students had been accepted for the course leading to the Graduate Diploma in Public Administration. In the spring of 1954 a small committee was appointed by the Senate to consider the acceptance of candidates for the Master's degree, and in the fall of the same year such students were admitted in a few departments and in the inter-departmental School of Public Administration.

The number of students and departments concerned increased gradually, and in the spring of 1959 the committee was enlarged by the Senate so as to include representatives of all departments offering or intending to offer graduate work, and was instructed to report its decisions to the Faculty Board. In 1959-60 the number of students increased, under the stimulus and opportunity provided by the move to the new site. Eleven departments were actively concerned, besides the School of Public Administration and the Institute of Canadian Studies, and there were 110 students registered, counting full and part-time students and diploma candidates. In the spring of 1960, therefore, the present School of Graduate Studies was formed, the committee being retained for policy matters, and an executive committee appointed for day-to-day decisions.

Some idea of the increase of interest in graduate studies may be gained from the fact that more pages were added to the minutes of the committee during 1959-60 than in all the preceding years together. Decisions had been made with care from the beginning, amid lively discussion in committee, Faculty Board and Senate. In the present

year many new students were admitted, some at the doctoral level; the newly-formed School was given a more definite organization, and two new programs were approved, to go into effect in the fall of 1960. These programs were sociology and aeronautical engineering.

The committee was sharply conscious of the expense which is inseparable from graduate work, and of the necessity for new undertakings to be in harmony with the general aims of the University. It was understood that any program which should in the future become disproportionately expensive would be reconsidered. It was also realized that allowance must be made for certain differences in aims and methods among the various departments. All agreed on the necessity of maintaining the highest standards.

A prominent feature was the provision by the University of six teaching fellowships of \$1800 each for 1959-60, and the same number for 1960-61. These are of the greatest importance in helping Carleton to get its share of the best students, and in enabling these students to get useful experience. Bursary assistance is also available. The science departments have special problems in obtaining the equipment needed for graduate studies and research; they have received valuable assistance from the National Research Council and other sources.

There are essential limitations on graduate activity at Carleton: it should not draw an undue share of university resources, nor should it inconvenience departments which find it most proper to restrict their graduate offerings. Within these limitations there are excellent prospects for the steady development of graduate work, with considerable advantages in the areas where this work is appropriate.

M. S. MACPHAIL,  
*Director, School of Graduate Studies*

## **The Institute of Canadian Studies**

he academic program of the Institute of Canadian Studies was formally initiated in 1959-60 with the acceptance of five candidates for the Master of Arts degree. The unique feature of this program is

the intention of enabling the graduate student to examine Canada, and Canada's relation to countries with which she is traditionally associated, from the vantage points of several disciplines, and indeed of encouraging him to co-ordinate these approaches in a single, complex view of the cultural history of the country. As was to be expected, the five students enrolled followed varied patterns in their year's work. Nearly all took undergraduate courses in preparation for advanced studies in disciplines in which they had had little or no previous training; some took graduate courses leading directly to the higher degree. The subjects studied were history, literature, journalism, sociology, and political science. Two candidates, both enrolled on a full-time basis for the two-year program, held pre-Master's scholarships from the Canada Council and partial teaching fellowships from Carleton University.

The Institute's main concern is its graduate program; but it is also the instrument of a number of related activities. Thus in November, through the special agency of the Department of Economics, the Institute sponsored a series of lectures by Dr. Nathan Keyfitz under the title "The New World of South Asia"; in January it co-operated with the Humanities Association of Canada (Ottawa Branch) and the Theatre Foundation of Ottawa to present a public lecture by Professor H. A. K. Hunt of the University of Melbourne on the subject "Drama and the Theatre in Australia"; and in April it ran a week-long, interdisciplinary seminar which it called "The Angry Thirties" and which surprised and pleased a large number of people by being a very great success. An estimated 200 persons, including several guests invited from other universities, took part in one or more sessions of the "Angry Thirties" seminar. Publication is an important adjunct of these activities. Dr. Keyfitz has used "The New World of South Asia" as the basis of a book to be published soon by Macmillan, and tape recordings of the "Angry Thirties" seminar are now being edited with a view to publication.

The list of imprints associated with the Institute was augmented towards the end of the fall term with the publication by the University of Toronto Press of the texts of lectures contributed in 1958 and 1959 to the Institute's now well established "Living Tradition" series. The latter series, allowed to lapse in 1960, will be resumed in 1961, and

several new projects, some promising important extensions to the already complex role of the Institute, are in hand at the moment.

ROBERT L. MCDUGALL,  
*Director, Institute of Canadian Studies*

## Report of the Registrar

The full-time student population of Carleton University continued the sharply rising curve which has marked the university's growth since 1955. A total of 857 full-time students enrolled for the 1959-60 season, an increase of 14 per cent over the previous year, and of 89 per cent over the registration of 1954-55.

Two particularly interesting features of these increases are to be noted: one, that they far exceed the comparable growth of Canada's university population during the same period, and that they contain each year an impressive percentage of students from outside Ottawa—the proportion of these in the 1959-60 total rose to 32 per cent. Of the full time total of 857 students, 385 or 45 per cent, came to Carleton for the first time.

The full-time enrolment by divisions and schools, in comparison with 1958-59, was as follows:

|                       | <i>1959-60</i> | <i>1958-59</i> |
|-----------------------|----------------|----------------|
| Arts                  | 363            | 312            |
| Commerce              | 85             | 80             |
| Engineering           | 82             | 66             |
| Journalism            | 51             | 50             |
| Public Administration | 5              | 13             |
| Science               | 254            | 222            |
| Special               | 17             | 9              |
|                       | <hr/>          | <hr/>          |
| TOTAL                 | 857            | 752            |

On the other hand, the part-time evening enrolment, which had risen sharply in the previous year, remained almost even: 916 during

1959-60 as against 914 for 1958-59. This was no doubt due in part to a reduction in the number of evening courses by about one-seventh, and possibly to the fee increase of 1959.

The Registrar is in a position to note the remarkable role played by the evening division, in the opportunities offered to government, military, business and teaching personnel to obtain sound degrees and enrich their personal and professional knowledge. Carleton's special achievement in this area of adult education has been on the one hand to keep open the door to advanced education to many hundreds of employed mature people of university calibre who otherwise could not study or obtain a degree; and on the other, to keep up a high standard of performance by not permitting an overload of evening courses to a candidate, and by insisting that day and evening students write the same final examinations.

The mature matriculant, who is a special category among these adult people, again applied in increasing numbers to enter the University on a full-time basis, for one year on trial. On the Registrar's recommendation, the entry age for this category of student has now been raised from 21 to 23 years, so as to provide a clear-cut category outside of the "twilight zone" of the late senior matriculant, and to ensure also that the mature applicant has had some real experience in business and industry. The performance of these students continues in the main to be very good.

In the summer session, where the 1959 enrolment reached a new high of 404, an interesting innovation was the opening of a very small day summer school, consisting in 1959 of three courses—one each in botany, English, and mathematics. Carleton has long had a successful evening summer school, opening about the first of June and running through to late August, with classes meeting twice weekly, and with long extra laboratories or field trips as needed. By its nature the summer school has been able to serve a large number of government and business personnel in Ottawa who obviously could not attend the conventional type of six-week summer day session. The small day school, which now runs from early July to mid-August and meets daily, is particularly useful to teachers wishing to improve their background of scholarship, and of course to certain honours students and others who prefer to use their summer for intensive study. The new

day-time classes were well attended, and are being offered (with a change of courses) again in 1960.

In his research capacity, the Registrar has continued, among other studies, the analysis of college performance by the Carleton undergraduates, particularly as regards their standing on entering. The importance of keeping the quality of the students under review is obviously great; but it is hardly greater than the difficulty of forecasting accurately how at least the large grey majority of "good" students will perform.

In particular, it has not been possible to show any strong correlation between matriculation grades and university performance, taken together, as compared with the student's performance on the college aptitude tests taken in the fall of his or her entry at Carleton. A subsidiary study on this problem initiated by this office last fall was carried out chiefly by Professor R. A. Wendt of the Department of Psychology. Although the study is only an early and limited one, it may have some message for those who uncritically accept college aptitude tests as the inevitable replacements in time to come for matriculation performances and other standards of entry.

Two direct results so far have come out of our own studies of performance; that is, results on the legislative side of the University. One is that at the junior matriculation level, the minimum entry standard (over-all general percentage) has been raised; the other, that at the senior matriculation level, high school graduates seeking to enter the Science Division are required to have at least third class standing in science and mathematics. The performance studies showed quite clearly that only those who fell below this standard could be safely predicted to be almost certain of early or ultimate failure.

My office revived during the past winter the unique "High School Days" program which had had to be suspended for the previous two years in the old college because of overcrowding. Approximately 22 high schools and some 600 senior high school students were received in groups on the campus, and given a chance to participate in classes, see the facilities, and talk with members of faculty and administration. In addition, the Registrar visited a large number of high schools, and also arranged for visits of professors from the different departments to high school assemblies, where they might ex-

plain the meaning and significance of their particular fields of study.

One of the most interesting developments was a two-day consultation and visiting between certain departments and the high schools; in the case of one science department (chemistry) this led to able seniors in the schools actually participating in part-time and summer work and experiments on the campus.

New staff appointments in the office greatly assisted the publication of the Calendar, the work of the Student Personnel Officer, and the regular administration of the large number of non-credit extension courses, where again the total enrolment exceeded 400 students, exclusive of the public lectures.

Two needs which appear very great to me can only partly be met by the University itself: they are (1) the continuing need of scholarships, and (2) special needs in improving student performance. The number of increased applications for scholarship aid at the gate of the University is striking. On the other hand, the number of scholarships made available is not increasing fast enough to meet the need, in spite of the generous new grants made by donors over the past two or three years. Of particular use is the continuation scholarship, which carries the highly able young entrant on to graduation, provided of course that he meets the continuing demands of first-rate performance.

In the field of performance, there does seem to me to be a need for the provision of stronger guidance services in many of the high schools preparing students for university. Although my own office is always more than glad to discuss with any young person his future choice of a career, it is obvious that many of the questions asked here could better be met at an earlier stage in the natural circle of the school.

One area in which the University itself could help greatly, when the funds are available, is in the provision of an Effective Reading Centre to which a certain number of students could be specifically referred, but which would also be open to any others who wished to use its facilities. Not, of course, that college students cannot read, but that many of them cannot read with sufficient speed of comprehension to handle the heavy reading lists and assignments which are part of the university field. It is interesting to note that in certain of the so-called Ivy League universities of the United States, where effective reading centres have been long established, the facilities are taken advantage

of, not only by able students, but by many members of faculty and by distinguished professional men from outside the university, who are faced with the continuing problem of handling more efficiently the masses of reading matter presented by their fields of work and learning.

J. A. B. McLEISH,  
*Registrar*

## Report of the Bursar

### *The Financial Record*

The year 1959-60 was a year of adjustment to the new location of the University. While expenditures on current account were in many respects directly affected by the change in site, current income was affected to a lesser extent.

The big changes in income over the previous year were in student fees, which increased by almost \$92,000; the Province of Ontario grant which increased by \$75,000; and the Government of Canada grant which increased by \$26,000.

With a fourfold increase in space available to the University and with an increase of 12% in student registration, it was inevitable that expenditures of the University increased substantially. The chief increases were as follows:

|                                    |            |
|------------------------------------|------------|
| Instruction.....                   | \$ 185,000 |
| Plant Operation & Maintenance..... | 89,000     |
| Library.....                       | 31,000     |
| Administration and General.....    | 22,000     |

There were some interesting variations in the increases in expenditure within the Plant Operation & Maintenance section. One of the pleasant surprises of the year was that the increase in the cost of fuel was less than anticipated and less than a fourfold increase. On the other hand, the cost of electricity, insurance, and water was slightly over four times as much as it had been for the Glebe campus only.

Income on capital account for the year was \$1,021,926, of which \$900,000 was from Province of Ontario capital grants. Expenditures totalled \$1,330,443. Of this total, \$863,515 was paid on construction account, leaving at June 30 a balance outstanding of about \$70,000. Of the remainder, \$404,664 was spent on equipment and furnishings.

Income for current operations came from the following sources:

|                                     | Amount             | %            |
|-------------------------------------|--------------------|--------------|
| Student Fees.....                   | \$ 486,267         | 37.2         |
| Investment Income.....              | 18,241             | 1.4          |
| Province of Ontario Grant.....      | 400,000            | 30.6         |
| Government of Canada Grant.....     | 255,753            | 19.6         |
| Atkinson Charitable Foundation..... | 23,528             | 1.8          |
| Bookstore & Cafeteria Income.....   | 57,446             | 4.4          |
| Annual Giving Programs.....         | 43,599             | 3.3          |
| Other.....                          | 22,106             | 1.7          |
|                                     | <u>\$1,306,939</u> | <u>100.0</u> |

Current expenditures were made for the following purposes:

|                                    | Amount             | %            |
|------------------------------------|--------------------|--------------|
| Instruction.....                   | \$ 859,510         | 57.6         |
| Library.....                       | 102,099            | 6.8          |
| Administration.....                | 134,838            | 9.0          |
| Plant Operation & Maintenance..... | 186,100            | 12.5         |
| General.....                       | 95,760             | 6.4          |
| Bookstore & Cafeteria Expense..... | 46,018             | 3.1          |
| Bursaries & Scholarships.....      | 16,945             | 1.1          |
| Other.....                         | 52,593             | 3.5          |
|                                    | <u>\$1,493,865</u> | <u>100.0</u> |

#### *Loans to Students*

The University has funds totalling \$163,291.97 available for loans to students. Most of this came fairly recently to the University by bequest of the late Mary Louisa Parker to establish a loan fund for students in the name of her husband, John W. Parker.

At the end of our last academic year, the total of loans outstanding to students was \$38,395.00. This total has grown very rapidly over the past three years, and if this rate of growth is maintained, the major

portion of the student loan funds may well be used for this purpose in the not-too-distant future.

Since the University started making loans to its students from special trust funds, \$57,389.54 has been loaned to 241 students, and of this sum \$18,994.54 has been repaid. This cannot be regarded as unsatisfactory because of the rapid increase in the rate of new loans in recent years, which means that a large proportion of our borrowers are still undergraduates.

We have had, however, two loans which we have had to write off as uncollectible, and this seemed to indicate an experience somewhat less favourable than that at other universities. From reports of other student loan funds it appears that the loss ratio should be less than 1%.

As a result of this and some other important factors, a change in the collection methods was instituted eighteen months ago. Under the new procedure, the loan when due, and when an arrangement for repayment has been worked out with the student borrower, is turned over to the University's bank for collection. One of the important reasons for doing this was that the student could, by repaying the loan in a manner satisfactory to our bank, establish for himself a credit-worthiness which, if used properly, ought to be a lifetime asset for him. This new system seems to be working out satisfactorily for all concerned.

While some loans have been granted to meet financial emergencies, many student borrowers have foreseen their needs for the year fairly accurately and well in advance.

But there is one field of borrowing which does not yet seem to have been touched, and this is financial planning for a whole university course in which the students' parents take part.

There must be many instances in which parents of students in their senior year of high school could be helped in their financial planning for their children's university courses by a preliminary discussion about the University's loan funds. In essence, the problem is to spread out the financial burden of university attendance over several years. It would, of course, be better from the University's point of view and likely from the parents' point of view if some of this could be taken care of in advance of university entrance. We have received one inquiry from a parent who has asked if we would be willing to accept

partial tuition payments two or three years in advance of the student's entrance. Our answer was that not only would we be happy to do this but that if this were done we would also enter into a tentative commitment to make substantial loans for the final years if these were necessary, subject only to the student maintaining a satisfactory rate of progress in his university courses.

The University's loan funds, provided entirely by gift, have helped a large number of our students through periods of financial difficulty, and have enabled them to continue their education where in many cases it would otherwise have been impossible. This has been of great service to the students, to the University, and to the community.

This service can be increased and it requires only that prospective students and parents know of the possibility and plan to use it effectively.

F. J. TURNER,  
*Bursar*

## The Library

This was a year of very rapid expansion, accompanied by a number of stresses and strains, but ending with much satisfactory progress having been made.

Planning for the expansion of accommodation for books and readers was already necessary, but the space required is available on the lower level of the new library. The beauty of the building, the ease of access it affords to books and the convenience of its work space, are all a continual joy to readers and to staff alike.

All phases of library work were organized and re-organized to meet new conditions, but it is probably safe to assume that a firm foundation has been laid for work for several years to come. The book budget was increased from \$18,000 to \$30,000. The staff was increased from 12 to 18 full-time members. The number of volumes processed increased from 5,671 to 8,700. A substantial number of these volumes were gifts, which had been stored unused, some for ten or more years. Senator Bronson's handsome collection has now been made available for the use of students, as have several collections of geological documents. Duplicates not required at Carleton have been given to other libraries where they will be used. The number of orders placed for books increased from 2,529 to 5,464 and 104 new subscriptions to periodicals were added. About 900 gifts were listed. There is still a large arrears of government documents to be sorted, listed and catalogued, but at least some 1,600 were catalogued during the year. This is a far cry from 1952, the first year in the former library, when the estimated arrears of cataloguing was 11,000 books and 2,000 documents.

Recorded circulation of books increased from 44,513 to 56,235. Unrecorded circulation must have increased correspondingly, due in

part to an experiment with some titles which were in particularly heavy demand. The library invested in several extra copies of each, pasted distinctive covers on them, and placed them on the open shelves for use in the library only. Not one of the books was stolen, and service to large classes was improved, without adding to the work at the circulation desk.

The statement that the library is the heart of the university has become somewhat trite, but a healthy increase in the borrowing of books surely proves that it is becoming true. To emphasize the circulation of books may seem a utilitarian approach, which fails to take account of the intrinsic value of the books themselves. It is, of course, vital for a country to have a national library and great research libraries, which preserve books for their own sake, and lend those which are required rarely. It is equally vital to the proper education of undergraduates, that they come to feel at home in the world of books, and this they do more easily in a relatively small, carefully selected library, than in a great repository. Carleton is particularly fortunate in being located in a city which is rich in research libraries serving this very important function, which universities must usually undertake themselves.

Through the years the first aim of the Carleton library has been to assemble a carefully chosen, heavily used collection of books, providing the minimum requirements for basic undergraduate studies of high quality. After 12 years it seemed likely that we were approaching this standard, and that we should assess the collection in terms of such a standard. At the end of the year the collection consisted of 40,600 books, 5,300 documents, 3,467 bound periodicals and unbound periodicals occupying space for 20,000 volumes. Current subscriptions to periodicals numbered 591. During the year faculty members checked a number of basic lists of recommended books to select those titles which should be in our library. The library staff checked our holdings against these lists, to determine what were the strengths and weaknesses of our basic undergraduate collection. It seems probable that for most departments the collection now meets minimum standards for good undergraduate studies. The need for continued improvement is, of course, obvious. Means have been found to strengthen some of the weaker parts of the collection materially during the

forthcoming year, and it is a source of great satisfaction to see the worst inadequacies of the collection remedied.

This stage in the development of the library has been attained with all of us acutely aware of the inadequacies of the collection in relation to the ambitious plans of the University. One goal is within reach but the new one is not yet clearly defined in terms of Carleton's greatest needs or of its proximity to the National Library, the National Research Council and other research libraries. It is obvious that Carleton must provide for the needs of the ordinary undergraduate and for the day to day needs of advanced students and faculty members. Beyond this it is not clear how much Carleton should duplicate, complement or supplement other book collections in Ottawa. The Carleton library already lends more to local libraries than it borrows from them and all individuals who ask are allowed free access to the book collection. In addition, the library lends to public libraries such as Aylmer, Arnprior and Cornwall. Carleton professors and advanced students rely heavily on resources outside the University, but the Carleton library plays a considerable part in the sharing of resources within this area, and future planning should take into account the improvement of total resources in the area and not only a short range view of Carleton's needs.

The book collection was enriched by a number of donations during the year. The French Embassy gave an excellent collection of modern editions of major French writers. These editions were particularly welcome as they were selected by faculty members to fill gaps in our resources for French studies. The Lady Perley chapter of the I.O.D.E. gave \$300 to assist a project of buying out-of-print books for the History department. The most important gift was the Brooke Claxton Memorial Fund, to which contributions have come from far and wide. This fund has made it possible to order at once many of the books selected by faculty members from basic bibliographies. We are extraordinarily fortunate in being able, by Mr. Claxton's wish, to fill promptly many of the needs so recently established.

HILDA G. GIFFORD,  
*Librarian.*

## Public Relations

The year 1959-60 was an eventful one, providing much public relations work. A major undertaking was the official opening of the campus. Ten thousand friends of Carleton inspected the buildings and saw many of the interesting features that make up a modern and thriving university. As an aftermath of the opening, the public relations staff has had to become quite skilful in guiding visiting groups in numbers ranging up to 400, including scientific, farm, labour, church and professional bodies, as well as Canadian and United States tourists.

Increased public relations activity on the new campus brought about the appointment of a public relations assistant during the past year.

As a result of the greater demand for information about Carleton, a central news and information bureau will be established in the public relations office. By creating this special service, the University will be better able to meet the demand for up-to-date information, and to service requests directly within a minimum time period.

Editors of newspapers, radio, television and magazines depend on the public relations office for news stories, feature stories and photographs depicting Carleton's growth and achievements. To create confidence among the staff of these media, the publicity office is most careful to avoid the "propaganda type" of news release, confining itself to items which have real news value for readers, listeners and viewers.

A major publicity story of the year was an extensive photo feature in *Weekend Magazine*, distributed in the Saturday editions of 34 leading Canadian daily newspapers with a combined circulation of 1,500,000 copies.

Other projects being completed with assistance from this office include a full-length article in one of Canada's national magazines, and a film in colour and sound being produced for Carleton by Crawley Films Limited.

During the year an internal weekly news bulletin was prepared for all university staff. A subsequent survey has revealed that a large majority of teaching and administrative staff is in favour of its continuance.

C. V. HOTSON,  
*Administrative Assistant*

## Development

During a year of consolidation in development activity, two trends have been noticeably evident. There has been a slow but steady growth in the total response to annual giving, and the emphasis in development activity has shifted from the area of program planning and organization to the broader field of community relations.

In development, the degree of community support which an institution enjoys is a good barometer of community understanding. Using this thesis as a criterion for assessing Carleton's development program, the 1959-60 academic and fiscal years revealed both significant strengths and identifiable weak points.

On the positive side, the increase in support from individuals who have participated in the Friends of Carleton annual giving program marks this area as one of substantial growth potential. In the fiscal year ending 30 June, 1960, 924 friends contributed \$20,713.75 as compared with 709 contributions amounting to \$14,982.70 in the same period in 1959.

While it had been hoped that this section might result in 2,100 gifts at an average of \$10.00, the same dollar total is indicated by the end of the calendar year from about 1,000 donors at an average gift of \$21.00.

During 1959-60, 98 corporations contributed \$16,326.33. The total for the previous fiscal year was \$10,395 from 94 participating firms.

While corporate annual giving has increased, this increase has not resulted from continuing support from a growing number of firms. Rather, a number of new firms have replaced those which have not renewed their support. When this is considered in relation to the known reluctance of the majority of Ottawa corporations to pledge financial support over a period of years, it represents a formidable challenge

to be met in obtaining the maximum potential attainable from the limited number of business and industrial firms in the Ottawa area.

In addition to the very valuable assistance that these programs provide in helping the University to meet costs of operation that are not covered by provincial and federal grants and student fees, the total contributions have a special significance in that they represent the equivalent of the annual income (at 5 per cent) from an endowment of \$740,800.

A third area of support, alumni annual giving, has evidently reached a plateau of response that requires increasingly intensive efforts to maintain the existing level. As in corporate annual giving the addition of a significant number of new contributors has been offset by a failure to maintain and indeed enlist new contributors from early graduating years. The 1959-60 fiscal year produced \$6,325.05 in alumni annual giving from 415 contributors, as compared with \$6,636 from 408 alumni in 1958-59.

During the year, a total of \$6,625 was received (\$5,137 from national corporations and \$1,488 in personal gifts) in new contributions to the 1957 Campaign, bringing the total to \$1,352,867. Of this pledged total, \$1,322,815 has been paid.

Re-location of the University has resulted in an expected stimulation of interest in Carleton's campus, buildings and plans for future expansion. The 10,000 people who visited the campus during the Open House events in February, and the members of various organizations who have visited the campus in group tours during the year, represent a substantial cross section of the Ottawa community which has seen and, it is hoped, has been favourably impressed with the new Carleton and the challenge which new opportunities and future requirements present.

D. S. SWAIN,  
*Development Officer*

## **The Alumni Association**

**T**he National Executive of the Alumni Association, elected from nominations of the graduate body, found in 1959-60 that after 10 years of continuous growth, the Association seemed to have reached a plateau in activity. The graduate body had full recognition by the University and a representative chosen by it sat on the University Board of Governors. The administration had been more than co-operative in assisting with financial and other matters. Alumni officials were expending as much time on graduate affairs as was permissible. But there was a feeling abroad that the Association should be embarking on new projects of major importance for the University.

The major project of the calendar year 1960 is the Alumni Annual Giving Program, called the "Dean's Alumni Fund for University Development" in honour of Dean James A. Gibson, to many graduates the main link with the Carleton they knew in student days, a kind and thoughtful friend.

Receipts from this program will continue to play an important part in student aid. (Graduate donations distributed from the 1959 fund included 17 scholarships totalling \$4,000, and numerous bursaries for which \$2,878 was available). The Alumni Association recognizes the need for assisting worthy students in their undergraduate years and having some of them remain for graduate study.

As well, a special fund will be created for emergency expenditures for which no budget allocation can be made. Perhaps the University may wish to acquire a suddenly available set of books for the library of a particular academic department; a renowned scholar may be invited to deliver a lecture; a particular piece of laboratory equipment may be purchased. These are projects ideally suited to a rather limited fund.

Fund raising, however, is not the only goal of the Alumni Association. Other important areas of activity are considered to be a continuing program of education for graduates, recruitment of the exceptional student, placement of graduates in permanent positions leading to responsibility and community leadership, and furthering the cause of higher education.

These objectives can and will be met as Carleton's graduate body grows. However, it is realized that such an extensive program of activity cannot be undertaken successfully, except in part, until the University sees fit to employ a Director of Alumni Relations whose principal duty will be alumni work.

C. V. HOTSON,  
*Executive Secretary, Alumni Association*

## The Student Personnel Office

### *Placement of 1960 Graduates*

The employment picture for Carleton graduates was bright this year. Over fifty employing agencies sent recruiting representatives to the University between October and March; twenty agencies got in touch with the Placement Office either by telephone or mail. Student response to recruiting visits was lively and interested, and the accommodation facilities for interviews on the new campus brought favourable comments from the employing representatives. Several industrial firms visited Carleton for the first time—Ford Motor Company of Canada, Texaco Canada Limited, British American Oil and others. Twenty-five graduates accepted positions in business firms and industries. Representatives from government and the armed services also held interviews on the campus.

The teaching profession attracted the largest group of graduates seeking employment. Thirty-one either planned to teach in the fall or are attending teacher-training institutions. Twenty students had teaching contracts with secondary schools prior to their graduation, and they attended summer schools at Toronto or Kingston. Five graduates are teaching in Ottawa; others accepted positions in Ontario and Quebec. Two are community teachers with the Department of Northern Affairs, and one graduate is teaching in England.

Government departments and agencies were competitive with business and industry for the best students in all faculties. Civil Service Career examinations for 1960 graduates were held early in November and approximately 24 students sat for them. Several candidates were successful and were offered appointments. Sixteen graduates are governmental employees (federal and provincial).

Many Carleton graduates have achieved a noteworthy reputation for continuing their studies in post-graduate and professional fields,

and this year was no exception. Twenty-six have signified their intention of post-graduate work in their respective studies and seven have been awarded fellowships or assistantships. One arts graduate has a Government of France scholarship to study at the Sorbonne; other arts people will be studying at Edinburgh, Syracuse, McMaster, Queen's, McGill and Saskatchewan. Two science graduates will continue their studies at the Universities of Bristol and Wisconsin; and a commerce student has been awarded a fellowship by Vanderbilt University. Several graduates will return to Carleton in the fall for courses in public administration, journalism, geology, and mathematics. Ten students will attend Canadian universities to study law, medicine or theology.

Summer employment prospects for junior undergraduates were disheartening in the early spring. Science and engineering seniors experienced no difficulty in getting jobs in government or industry. Students in other faculties accepted whatever jobs were going, and were glad to get them. The situation changed considerably in June after local radio stations appealed to Ottawa firms to employ university students for the summer. Most students found jobs although many worked for comparatively low wages. The largest summer employing agency is the Federal Civil Service, with other government agencies and corporations. Approximately fifty undergraduates who were officer cadets under the University Reserve Training Plan, consequently had no worries about summer employment.

### *Financial Aid to Students*

During the academic year 1959-60, 355 students enrolled at Carleton University received some form of financial assistance. The total disbursement was \$104,386 (an increase of \$31,883 over the previous year). The group included 324 day students (38% of the full-time student body), 18 students enrolled in evening courses, and 13 people in extension courses.

From funds at its disposal Carleton University allocated \$69,096 to 241 students: \$29,692 in scholarships, \$20,787 in bursaries, \$17,137 in loans, and \$1,480 in prizes. Another 114 students are known to have received financial assistance through other channels. Twenty-

seven people from this latter group received \$9,950 in scholarships, bursaries, and loans administered by other organizations or agencies, but tenable at Carleton.

Government agencies (federal, provincial and foreign), local business firms, Y.M.C.A., and church organizations contributed to the financial aid program through the payment of tuition fees. They paid \$25,340 in tuition fees for 56 full-time students, 18 part-time (evening) people, and 13 personnel enrolled in extensions courses. The largest group of sponsored students was 27 Colombo Plan trainees from British West Indies, Ghana, and South-East Asia. Ten students received education benefits through the Children of War Dead (Education Assistance) Act.

There were many more applications for awards than were available at the University. Sixty-one freshmen applied for the 19 undergraduate entrance scholarships valued at \$16,600. Unsuccessful scholarship candidates with good academic standing and in need of financial assistance were encouraged to apply for bursary aid. There were 22 applications for post-graduate fellowships and scholarships in public administration: 17 of these received a total of \$6,202.

An unprecedented number of students applied for bursary aid during the year—117 requested grants totalling \$39,473. Thirty-seven of this number were Grade 13 Ontario students who had applied for Atkinson Charitable Foundation Entrance Bursaries (thirteen met the requirements and received awards). The University Student-Aid Committee allocated \$17,587 in bursaries to 50 worthy candidates. Bursary recipients were selected on the basis of satisfactory academic standing and evidence of genuine financial need. Twelve Ontario students received Dominion-Provincial Type A Bursaries; four received Type B Bursaries.

During the year 48 students applied for loans totalling \$17,944 and ranging in value from \$43 to \$1,520. The Student-Aid Committee loaned \$16,029 to 45 of the applicants; three applications were not approved because of unsatisfactory academic standing. In the course of the year, 50 students were granted small loans from the Small Loans Fund, which fills a need when a small amount is required to tide a student over unexpected emergencies or expenditures. The popularity of this fund is indicated by the fact that \$1,108 was the

total of the loans made from September to May. Six students were granted loans from the Ontario Department of Education Student Loan Fund.

In summarizing the student aid program for 1959-60, it is evident that the University did not have sufficient funds to meet the increasing number of applications for scholarships and bursaries. Although the entrance scholarship funds increased by \$1,800 over the previous year, the University was able to grant scholarships only to 31% of the applicants. There was an increase of \$2,483 in bursary funds available for the past year, and all students who had better than average academic standing and were in financial distress received some bursary aid. However, few students were allocated the full amounts for which they applied. It was not possible to award bursaries to students with less than second-class standing but they were eligible for loans. Although there was a slight decrease in the number of people applying for loans than in the previous year, the total sum loaned was twice the amount loaned in 1958-59 (total increase \$7,493).

We anticipate an increasing need for scholarship and bursary funds for 1960-61. Summer employment for the students got off to a slow start and many students were without jobs for four to six weeks or longer. A recent DBS report indicated that the largest part of the average student's income (30%) comes from summer earnings, which is a precarious source since it is dependent on the course taken, on the employment situation at the time, and other factors. The same report showed that just 10% of student income was provided by scholarship and bursary funds. It is clear therefore that the student-aid programs in Canadian universities will have to be increased in order to encourage good students who lack the financial means to attend college.

JEAN A. LOATES,  
*Student Personnel Officer*

## Athletics

During 1959-60 two needs stressed in previous reports, staff and facilities, were to some extent satisfied. Mr. Keith Harris joined the staff as Assistant Director of Athletics. The new field and field house were ready for use.

The advantages of having Mr. Harris as a member of staff were diminished to some degree by the fact that his time was distributed between the Biology and Athletic Departments, and that Mr. Fenn was given additional responsibility as Student Affairs Adviser. These diversified demands on the staff meant no one person was able to give athletics his undivided attention. This resulted in a certain amount of administrative confusion and inefficiency. But the compensation was well worth the handicaps. The increase in staff made new growth in athletics possible. Mr. Harris assumed responsibilities primarily in football, skiing and intramural athletics with positive results.

The new facilities proved to be a real blessing. The base of operations, though unfinished, has helped to stimulate interest and participation in many phases of the program. Increased activity in football, skiing, weight lifting, and hockey was a notable effect of having facilities on campus. In the past Carleton has been completely dependent upon others for physical facilities; this year the University was able to reciprocate. Last fall several high school football games were played on the new field.

There were other developments worthy of note in 1959-60. The skiing and curling teams captured the conference championships for the second consecutive year. The skiers, also, took most of the honours at the Carleton invitational meet. The women's basketball and volleyball teams showed well in intercollegiate competition. The recreational and intramural athletic programs were greatly stimulated by having

regular hours of gym time. This was made possible by having the new R. A. Centre available to the University. The high school basketball tournament was changed by the addition of competition for players of junior age, which meant that twice the number of teams participated.

In summary, 1959-60 was a period of adjustment at Carleton University. The sudden expansion on all fronts was not without complication. However, the beneficial effects of these changes were obvious through the increase in interest, participation, and the number of activities. In the future, there should be no need to look back.

NORMAN D. FENN,  
*Director of Athletics*

## Student Activities

The year 1959-1960 was one of change for Carleton University. In keeping with this development the Students' Association underwent a rather extensive re-organization of its governmental structure. It has been generally agreed for some time that the Students' Council as set up several years ago is simply too small to meet the demands of a greatly increased enrolment. There has to be some sharing of the work load in the conduct of student affairs. It is hoped that the establishment of a Representative Assembly in the fall of 1960 as set out in an amendment to the Students' Association Constitution will serve to ease this work load now being carried entirely by the Council.

The Representative Assembly as the legislative body of student government will bring a broader and more equitable representation to the administration of campus affairs. Each of arts, science, commerce, journalism and engineering, along with the five service and welfare organizations on campus will be represented on the Assembly. The Assembly shall be responsible for developing an effective committee structure which will aid in distributing responsibility and will provide a training ground for student leaders.

It is hoped that the eight man Students' Council will act in a more executive capacity than in the past. Councillors will be able to implement and co-ordinate Students' Association policy in a freer and more energetic fashion.

The initiation of the Honour System in the fall of 1959 was regarded as a significant step forward in the development of Carleton's autonomous tradition in student government. Each freshman at registration was invited to sign a pledge to uphold the constitution and principles of the Students' Association. It was indeed gratifying that one hundred per cent of the freshman class took the honour pledge.

This year marked the establishment of the student publications on a

more sound operating basis than they have been for some time. *The Carleton* in particular was restored to its old form, as it appeared on the news stand every Friday morning at nine o'clock. *The Halcyon*, a publication of the Literary Society, took a step forward as it published two issues instead of the usual single edition. The first *Student Handbook* was published in co-operation with the university administration and the Athletic Department.

Carleton organizations again participated in a number of inter-university student conferences. Two delegates attended the National NFCUS Conference at the University of Saskatchewan in October. A delegation of ten students travelled to the University of Toronto in January to attend the Ontario Regional Conference of NFCUS. Several other clubs and societies in the university sent representatives to national, provincial, and regional conferences. Our own Bridge Club sponsored an inter-university bridge tournament.

The Students' Association participated in the Red Cross blood drive which proved to be a most successful undertaking. The response of students and faculty to the appeal for blood donors was most heart-warming. Carleton was successful in winning the Corpuscle Cup for competition with the University of Ottawa in this blood-giving venture.

One of the major concerns of those participating in the various student activities continues to be the lack of a class-free period when the many organizations could meet with the assurance that a large proportion of their membership would be present. We realize that circumstances in the past have prevented such a period, but we still hope that this long-awaited objective will be realized in the near future.

The Students' Council and the Student Publications Department were more than pleased with the new offices provided in the tunnel. We were indeed grateful for the generous assistance granted us by the administration of the university in our attempt to furnish our new headquarters.

In conclusion may I take this opportunity to offer our thanks to the faculty and administrative staff for the co-operation extended from all quarters of the university throughout the year.

BOB ARMSTRONG,  
*Vice-President, Students' Council, 1959-60*

## Student Affairs

Traditionally at Carleton, student activities have been primarily the concern of the students. Student government has been practically autonomous and the extra-curricular program, with the exception of athletics, has been under student leadership. However, it was anticipated that the move to the new campus would create a need for the administration to give greater attention to student affairs. The appointment of a Student Affairs Adviser was an attempt to answer this need. This was not a break with tradition, but an effort to establish a closer working relationship between the administration and the student body.

To assess accurately the results of such a move after one year is difficult. The occupancy of the new campus brought about other changes of greater magnitude, making it almost impossible to establish the influence of any single factor. It would be safe to state, however, that during this trial period there were developments which came about either directly or indirectly by the appointment of a Student Affairs Adviser.

The area of communication received the most attention by the Student Affairs Adviser during 1959-60. Early in the academic year it was obvious that the means of communication used in the old site were no longer adequate. For a brief period, due to a lack of communication, certain actions by various individuals or groups were misunderstood. This along with the sudden increase of the size of the campus brought complications. New and more effective means of communication were established as a result. For example, regular meetings were scheduled between administrative and student representatives; the Student Affairs Adviser, as an observer, attended when possible, Student Council Meetings; and joint student-staff committees were formed to con-

sider aspects of university life which directly concerned the students. Other developments during the year confirmed that there was a need for a close working relationship between the administration and student government; that the larger campus and student body means greater attention must be given to the needs of the individual student; and that the anticipated student residences will make increasing demands of the administration. It would seem, after one year, that the trend established by the appointment of a Student Affairs Adviser will facilitate the meeting of these demands.

NORMAN D. FENN,  
*Student Affairs Adviser*

## II. FACULTY ACTIVITIES

#### APPOINTMENTS

##### *To Director of School of Graduate Studies*

M. S. Macphail, B.A. (Queen's), M.A. (McGill), D.Phil. (Oxford),  
F.R.S.C., Associate Dean, Professor and Chairman of the De-  
partment of Mathematics

##### *To Director of Division of Science*

Herbert H. J. Nesbitt, B.A. (Queen's), M.A., Ph.D. (Toronto),  
D.Sc. (Leiden), F.L.S., Professor and Chairman of the De-  
partment of Biology

##### *To Student Affairs Adviser*

Norman D. Fenn, B.S., M.Ed. (Springfield), Director of Athletics  
—to additional duties of Student Affairs Adviser

#### NEW APPOINTMENTS

##### *Associate Professors*

John Ruptash, B.Sc. (Alberta), M.A.Sc., Ph.D. (Toronto)—En-  
gineering; also Director of School  
Frank Wightman, B.Sc., Ph.D. (Leeds)—Biology (Botany)

##### *Assistant Professors*

Stephen F. Kaliski, B.A. (British Columbia), M.A. (Toronto)—  
Economics  
John S. Moir, M.A., Ph.D. (Toronto)—History  
Marcel Rioux, B.A. (Laval), M.A. (Montreal), Dip.Eth. (Paris)—  
Sociology  
Donald R. Wiles, B.Sc., B.Ed. (Mount Allison), M.Sc. (McMaster),  
Ph.D. (M.I.T.)—Chemistry  
Whitman Wright, B.A.Sc. (Toronto)—Engineering

##### *Lecturers*

Jeremy C. Forster, M.A. (Cambridge)—Spanish  
J. G. Garrard, B.A. (Oxford)—Russian  
Peter L. Smith, B.A. (British Columbia), M.A., Ph.D. (Yale)—  
Classics

R. Stephen Talmage, B.A. (Oxford)—Philosophy  
James M. Thompson, M.A. (Toronto)—Philosophy  
William Tupper, B.Sc. (Mount Allison), M.Sc. (New Brunswick),  
Ph.D. (M.I.T.)—Geology

*Visiting Professor*

M. Pierre Mélése, D. ès L. (Sorbonne)—French

*Special Lecturers*

Robert L. Comeau, M.A. (St. Francis Xavier)—Economics  
David L. Matthews, B.Sc. (Queen's), Ph.D. (Princeton)—Physics  
Bruce A. McFarlane, M.A. (McGill)—Sociology  
A. M. Willms, B.A., B.Ed. (Alberta), M.A. (Toronto)—Public  
Administration

*Administrative Appointments*

Keith N. Harris, B.A., B.P.H.E. (Queen's)—Assistant Director of  
Athletics  
Lionel Phipps—Plant Supervisor

PROMOTIONS

*From Assistant Professor to Associate Professor*

Gordon S. Couse, B.A. (McMaster)—History  
H. Edward English, B.A. (British Columbia), Ph.D. (California)—  
Economics  
Pauline Jewett, M.A. (Queen's), Ph.D. (Harvard)—Political Science  
John A. Porter, B.Sc. (Econ.) (London)—Sociology  
Bernard Wand, B.A. (Queen's), M.A., Ph.D. (Cornell)—Philosophy

*From Lecturer to Assistant Professor*

A. G. Forman, B.A., M.Sc. (British Columbia)—Chemistry

*From Instructor to Lecturer*

R. Bruce Gamble, B.Sc. (McGill)—Mathematics

ADMINISTRATIVE CHANGES

H. Edward English, B.A. (British Columbia), Ph.D. (California),  
Associate Professor of Economics—to Chairman of the De-  
partment, 1959-60  
Charles P. Fleischauer, A.M., Ph.D. (Harvard), Assistant Professor  
of French—to Acting Chairman of the Department, 1959-60

G. Ross Love, M.A. (Western Ontario), Ph.D. (Toronto), Associate Professor of Physics—to Chairman of the Department, 1959-60

#### LEAVES OF ABSENCE

Muni C. Frumhartz, B.A. (Toronto), A.M. (Columbia), Assistant Professor of Sociology—for temporary duties with Canadian Broadcasting Corporation, Audience Research Division

A. M. Ghosh, M.Sc. (Calcutta), Assistant Professor of Physics—to continue doctoral studies at McGill University.

P. A. Hill, B.Sc. (London), Ph.D. (Columbia), Assistant Professor of Geology—to accept visiting position at University of Tasmania, Australia

Allan M. Munn, B.Sc. (Queen's), M.Sc., Ph.D. (McGill), Professor of Physics—for study in the U.K. and Europe

James S. Tassie, B.A. (McMaster), M.A., Ph.D. (Toronto), Associate Professor of French—for study in France

#### RESIGNATIONS

Donald F. Coates, M.Eng. (McGill), M.A. (Oxford), Associate Professor of Engineering and Director of the School

E. A. O. Turnau, M.Sc. (McGill), Assistant Professor of Biology

*Research in progress, whether aided by grants  
or undertaken independently.*

## **Research**

### **D. G. ANGLIN (Political Science)**

Canadian policy towards international institutions, 1939-50.

The St. Pierre and Miquelon *Affaire* of 1941.

Foreign relations of African states.

### **I. BAYLY (Biology)**

Plant successions on the drowned lands of the St. Lawrence Seaway.

Anatomical abnormalities of willow galls.

### **A. M. BEATTIE (English)**

Henry James and the novel in the twentieth century.

### **R. E. V. BISMUTH (French)**

Les tendances de la poésie haïtienne contemporaine.

### **T. N. BREWIS (Economics)**

Completion of book on Canadian economic policy to be published by Macmillan in 1960.

The influence of government on the character and direction of private investment, with particular reference to the "Capital Issues Control" and the development areas in the United Kingdom.

### **T. J. S. COLE (Physics)**

Investigation of variations in relative abundance of atmospheric gases during geologic time.

Geological age determination and isotope geology, in collaboration with Department of Geology.

G. S. COUSE (History)

Doctoral dissertation for the University of Chicago, "The Roots and Extent of Historicism in the Doctrinaires."

WILFRID EGGLESTON (Journalism)

Further work on a book of journalistic and political memoirs.

H. E. ENGLISH (Economics)

The relation between the structure and behaviour of selected Canadian manufacturing industries and import competition within the context of Canadian commercial policy.

C. P. FLEISCHAUER (French)

Critical edition of Voltaire's *Diatribes du Docteur Akakia*; and an edition of Voltaire's poetry.

Preparation of article on the rehabilitation of the Baron de Lahontan.

A. G. FORMAN (Chemistry)

Investigation of rearrangement in the reactions of alpha- and beta-naphthylethyl-1-C<sup>14</sup> compounds.

J. C. FORSTER (Spanish)

An interpretation of the *Romancero Gitano* of Federico García Lorca.

A. C. GHOSH

Improved method of producing magnetic focussing in the extracted proton beam from a cyclotron.

J. A. GIBSON (History)

Studies in the artistic, literary and philological work of Sir Edmund Walker Head, Bart., (1805-68).

Studies on the nature of Canadian federalism.

JOHN HART (Physics)

The properties of electrical insulation at high temperatures.

J. M. HOLMES (Chemistry)

Investigation of surface properties of bone mineral, in collaboration with R. A. Beebe at Amherst College; calorimetric heats of adsorption of various gases on various adsorbates.

KENNETH HOOPER (GEOLOGY)

Microradiography of the Foraminifera.

Microfaunal investigations in the Gulf of St. Lawrence and Atlantic Shelf: distribution of Foraminifera, Benthic and Planktonic; relationship of physical and chemical oceanographic factors to Foraminiferal distribution; vertical distribution of successive Foraminifera populations.

W. I. ILLMAN (Biology)

Comparative physiology of pre-penetration and early infection stages of fungi inciting tomato anthracnose.

Conidial pigments of *Glomerella cingulata*.

W. H. KESTERTON (Journalism)

Continuing research into the history of Canadian journalism from 1752 to the present.

Research on "The Canadian Newspaper as Book Publisher" from pioneer beginnings to present activities.

P. M. LAUGHTON (Chemistry)

Solvolysis of anchimeric substances in light and heavy water; solubilities of neutral polar substrates in light and heavy water; sulfonic esters of mercaptoalkanols; forced Claisen condensations; characterization of essential oil constituents.

A. H. LIGHTSTONE (Mathematics)

Work on an elementary text-book presenting some aspects of modern mathematics, the mathematical method, and a "Menger-type" introduction to calculus.

D. L. MATTHEWS (Physics)

Vibrational relaxation in carbon monoxide; the rate of dissociation of oxygen.

R. L. McDOUGALL (English)

Regimental history of the Seaforth Highlanders of Canada.

- Comparative study of basic concepts and values in the literature of French and English Canada.
- S. R. MEALING (History)  
Study of the career of J. G. Simcoe.  
The British occupation of St. Domingo, 1794-1800.
- G. C. MERRILL (Geography)  
The historical geography of British Guiana.
- J. S. MOIR (History)  
Work on a biography of Lord Sydenham.
- J. M. MORTON (Chemistry)  
Exchange reactions of inorganic chelate compounds.
- H. H. J. NESBITT (Biology)  
Studies on the relationship and affinities of the animals of the phylum Arachnida and in particular the members of the order Acari.  
Neurological studies of the brain and nervous system of the Lower Hexapoda.
- F. H. NORTHOVER (Mathematics)  
Research by mathematical analysis into the diffraction behaviour, in an incident electromagnetic field, of various shaped bodies of interest to the Department of National Defence.  
Mathematical investigation of scattering of electromagnetic waves from ionised trails and distributions.
- E. M. OPPENHEIMER (German)  
Goethe's occasional poetry, 1790-1832.
- JOHN PORTER (Sociology)  
Elites, power and social classes in Canada.
- R. PUTNAERGLIS (Engineering)  
Heat transfer across metal interfaces.
- L. M. READ (Religion)  
Hegel's interpretation of Christian doctrine.

J. E. RIDDELL (Geology)

A continuation of studies on cation migrations in natural solutions: distribution of metals in recent marine sediments of Chaleur Bay.

Distribution of copper in soils of Allumette Island.

General studies of distribution of heavy metals in glacial soils of Canada.

MARCEL RIOUX (Sociology)

Study of value orientations among French Canadians.

D. C. ROWAT (Political Science)

Completion of book of readings, "Basic Issues in Public Administration", to be published by Macmillan, N.Y., in 1961.

Revision of *Cases on Administration*.

JOHN RUPTASH (Engineering)

Manuscript in preparation in field of advanced fluid dynamics.

D. A. SMITH (Biology)

Studies of the Taxonomy and distribution of deermice (*Peromyscus*) in Ontario.

P. L. SMITH (Classics)

Euripidean imagery.

ELLENOR SWALLOW (Classics)

A study of the concept and treatment of failure among the classical peoples.

R. S. TALMAGE (Philosophy)

A study of conditional propositions and modality.

J. M. THOMPSON (Philosophy)

Doctoral dissertation for the University of Aberdeen on the concept of Symbol.

W. M. TUPPER (Geology)

Construction of a 6 in. 90° dual collector research type mass-spectrometer, for use in research projects in nuclear geophysics and geochemistry.

Thermodynamic and physical aspects of isotope fractionation.

The absolute geologic ages of the Highlands of New Brunswick.

F. R. WAKE (Psychology)

Development of colour discrimination in children.

Normal aggression.

BERNARD WAND (Philosophy)

The form and content of conscience.

Freedom and Nature: a study of freedom as assertion and denial.

R. A. WENDT (Psychology)

The effect of low intensity stimulation on learning.

J. C. S. WERNHAM (Philosophy)

A work on Nicholas Berdyaev and Leo Shestov.

FRANK WIGHTMAN (Biology)

Studies on the metabolism of Tryptophan-beta-C<sup>14</sup> in different plants in relation to the biosynthesis of plant auxins.

Investigations on the translocation and metabolism of several C<sup>14</sup>-labelled growth-regulating substances in a range of crop and weed plants.

D. R. WILES (Chemistry)

Hot-atom chemistry in inorganic solids.

Dissolution kinetics of cupric oxide in ammonia solutions.

W. L. YOUNG (Geology)

Lithology of Precambrian conglomerate formations.

Tin mineralization at Mount Pleasant, New Brunswick.

*Publications by members of the staff during the academic year 1959-60, or during the period of their connection with Carleton University if not previously reported.*

## Publications

D. G. ANGLIN

"Canada and *Apartheid*", *International Journal*, Vol. 15, No. 2, Spring, 1960, pp. 122-137.

"The French Community", *World Review*, March, 1960, pp. 1-4.

A. M. BEATTIE

"Henry James, Novelist", *Dalhousie Review*, November, 1959, pp. 455-463.

WILFRID EGGLESTON

*The Green Gables Letters* (of L. M. Montgomery to Ephraim Weber), Ryerson Press, Toronto, February, 1960, 104 pp.

*Canadians Enjoy a Free and Responsible Press?*, pamphlet, Canadian Association for Adult Education, February, 1960, 9 pp.

"Canada", *1960 Britannica Book of the Year*, pp. 136-137.

H. E. ENGLISH

"British Steel—A Unique Record of Public Regulation", *Canadian Journal of Economics and Political Science*, Vol. 26, No. 2, May, 1960, pp. 241-264.

D. M. L. FARR

"John S. Ewart", *Our Living Tradition, Second and Third Series*, University of Toronto Press in collaboration with Carleton University, 1959, pp. 185-214.

J. A. GIBSON

"Sir Robert Borden", *Our Living Tradition, Second and Third Series*, University of Toronto Press in collaboration with Carleton University, 1959, pp. 95-122.

HILDA G. GIFFORD

"The Carleton University Library Building", *American Library Association Bulletin*, June, 1960, pp. 478-480.

KENNETH HOOPER

"X-ray Absorption Techniques Applied to Foraminifera Populations", *Journal of Palaeontology*, Vol. 33, No. 4, July, 1959, pp. 631-640.

"The Genus *Operculina* in Australia—a Literature Survey 1826-1958", *Carleton University Geological Series* No. 59-1, 1959, 66 pp. 1 text fig.

"Marine Tertiary Rocks of Binneringi, Western Australia", *Ibid.*, No. 59-3, 1959, 13 pp., 1 map with sections.

W. I. ILLMAN

"Anthracnose of Canning Tomatoes in Ontario", *Canadian Journal of Botany*, Vol. 37, November, 1959, pp. 1237-1246 (with R. A. Ledwig and Joyce Farmer).

"Estimating Germinability of *Sclerotia*", *Plant Disease Reporter*, Vol. 44, 15 April, 1960, p. 297.

S. F. KALISKI

"The Demand for Passages Through the Kiel Canal: A Comment", *Canadian Journal of Economics and Political Science*, Vol. 25, No. 4, November, 1959, pp. 507-508.

"Extraneous Estimates and Goodness of Fit: A Problem in Empirical Economics", *Manchester School of Economic and Social Studies*, Vol. 28, No. 1, January, 1960, pp. 59-72.

W. H. KESTERTON

"A History of Canadian Journalism, (circa) 1900-1958", *Canada Year Book*, 1959, pp. 883-902.

P. M. LAUGHTON

"Solvolysis in Hydrogen and Deuterium Oxide. III. Alkyl Halides", *Canadian Journal of Chemistry*, Vol. 37, 1959, pp. 1491-1497 (with R. E. Robertson).

"Determination of Citral in Lemongrass and Citrus Oils by Condensation with Barbituric Acid", *Journal of Agricultural and Food Chemistry*, Vol. 7, 1959, pp. 850-859 (with Leo Levi).

"A Separation and Identification Experiment for Elementary Organic Chemistry Laboratory", *Journal of Chemical Education*, Vol. 37, 1960, p. 133.

R. O. MACFARLANE

*Report of Manitoba Royal Commission on Education*, Queen's Printer, Winnipeg, 1959, xxi, 284 pp.

M. S. MACPHAIL

"Sequence and Series Transformations", *Canadian Mathematical Bulletin*, Vol. 3, 1960, pp. 80-83.

D. L. MATTHEWS

"Vibrational Relaxation of Carbon Monoxide in the Shock Tube", *Bulletin of the American Physical Society*, Series II, Vol. 5, 1960, p. 250.

R. L. MCDUGALL

Editor, with an introduction—*Our Living Tradition, Second and Third Series*, University of Toronto Press in collaboration with Carleton University, 1959, xiii and 288 pp.

"Thomas Chandler Haliburton", *Ibid.*, pp. 3-30.

J. S. MOIR

*Church and State in Canada West: three studies in the relation of denominationalism and nationalism, 1841-1867*, University of Toronto Press, Oxford University Press (London), 1959, 223 pp.

"The Origins of the Separate School Question in Ontario", *Canadian Journal of Theology*, Vol. 5, No. 2, 1959, pp. 105-118.

"An Early Record of Laura Secord's Walk", *Ontario History*, Vol. 51, No. 2, 1959, pp. 105-108.

F. H. NORTHOVER

"The Propagation of Electromagnetic Waves in Ionized Gases", *IRE Transactions on Antennas and Propagation*, Vol. AP-7, Special Supplement, December, 1959, pp. S340-360.

"The Propagation of Electromagnetic Waves in Ionized Gases (with special reference to 'whistlers')", two papers in *Journal of Atmospheric and Terrestrial Physics*, Vol. 17, December, 1959, pp. 158-178.

L. M. READ

"The Crowe Case: Its History and Implications", *School and Society*, Summer, 1960, pp. 285-289.

MARCEL RIOUX

"Note sur la nation d'idéologie", *Anthropologica*, N.S., Vol. 1, 1959, pp. 136-139.

"Sur le développement socio-culturel du Canada français", *Contributions à l'étude des Sciences de l'Homme*, Cahier 4, 1959, pp. 144-162.

D. C. ROWAT

"Do We Need the Manager Plan?", *Canadian Public Administration*, Vol. 3, No. 1, March, 1960, pp. 42-50.

W. M. TUPPER

*Geology of the McDougall Lake Area, New Brunswick*, N.B. Department of Lands and Mines Paper No. 59-2, July, 1959, 14 pp., 2 pls.

"Intrusive Granites in New Brunswick", NYO-3940, *Seventh Annual Progress Report for 1959*, Contract AT(30-1)-1381, Research Division, United States Atomic Energy Commission, 1 November 1959.

*The Genesis of the Sulfide Deposits of Northern New Brunswick—an interpretation based on sulfur isotopic studies*, Society of Mining Engineers, Preprint No. 60168, February, 1960, 19 pp., 8 pls. (with M. L. Jensen and P. M. Hurley); abstract, *Mining Engineering*, January, 1960.

F. R. WAKE

"The Open Door Philosophy: A Concept of Freedom", *Medical Services Journal*, Vol. 15, No. 9, October, 1959, pp. 551-560; reprinted in *Canada's Mental Health*, January, 1960, and in *Newsletter of the Mental Health Institute and Facilities of Pennsylvania*, April, 1960.

"Normal Aggression and Delinquency", *Bulletin of the Maritime Psychological Association*, December, 1959, pp. 50-59; reprinted in *Canadian Journal of Corrections*, Vol. 2, No. 2, April, 1960.

R. A. WENDT

"Edward Chace Tolman, 1886-1959", *The Canadian Psychologist*, Vol. 1, 1960, p. 21.

D. R. WILES

"Kinetics of the Dissolution of Copper in Oxygen-containing Solutions of Various Chelating Agents", *Journal of the Electrochemical Society*, Vol. 106, 1959, pp. 647-650 (with J. Halpern and H. Y. Milants).

"Rate Control in the Hydrometallurgical Precipitation of Uranium Dioxide", *Canadian Journal of Chemical Engineering*, Vol. 37, 1959, pp. 153-156.

"Kinetics of the Dissolution of Copper in Aqueous Solutions of Aliphatic Amines", *Journal of the Electrochemical Society*, Vol. 107, 1960, pp. 164-167 (with S. C. Sircar).

"Kinetics of the Dissolution of Copper in Aqueous Solutions of Aliphatic Diamines", *Ibid.*, pp. 366-370 (with S. C. Sircar).

W. L. YOUNG

*Geology of the Bennett-Tanner Area*, Ontario Department of Mines, Vol. 69, Part 4, 1960, 17 pp., 1 map.

*Special honours, offices held, occasions on which the University has been represented, and other items of interest.*

## Honours and Activities

### D. G. ANGLIN

Member, executive committee, Ottawa Men's Branch, Canadian Institute of International Affairs.

### A. M. BEATTIE

Awarded Canada Council Senior Research Fellowship for research in England, 1960-61.

Carleton representative, planning committee for Stratford Festival Seminar, summer, 1960.

Member, special revising board for Ontario Departmental Examinations, summer, 1959.

Secretary-treasurer, Ottawa branch, Humanities Association of Canada.

### R. E. V. BISMUTH

Member, Board of French Examiners for Sorbonne.

### T. N. BREWIS

Awarded Canada Council Senior Research Fellowship for research at the London School of Economics, 1960-61.

### A. D. DUNTON

Member, Canadian Universities Foundation; chairman, committee on residences, and committee on centenary year.

Member, board of directors, Ottawa Philharmonic Orchestra.

Delegate, Conference on World Tensions, University of Chicago, 11-13 May, 1960.

Host, CBC Radio series, *Room for Argument*, April-June, 1960.

Chairman, session on mass media, Canadian Political Science Association, annual meeting, Kingston, 9 June, 1960.

**WILFRID EGGLESTON**

Special lecturer on Canadian letters, Banff School of Fine Arts, July, 1959.

Re-elected president, The Canada Foundation, December, 1959.

Re-elected vice-president, The Canadian Writers' Foundation, February, 1960.

Re-elected secretary-treasurer, Canadian branch, International Press Institute of Zurich, Switzerland, May, 1960.

**H. E. ENGLISH**

Secretary, program committee, Canadian Political Science Association.

**D. M. L. FARR**

Member of council, Canadian Historical Association, 1959-62.

Chairman, committee on the 1960 summer study centre, Canadian Historical Association, at Queen's University.

Member, supervising board, Ontario Department of Education, 1960.

**C. P. FLEISCHAUER**

Organizer, symposium on Canadian culture from 1760 to 1960, Alliance Canadienne annual national meeting, Ottawa, May, 1960.

**J. A. GIBSON**

Member, selection committee, Queen Elizabeth II Ontario Scholarships.

Member, scholarship advisory panel, Colombo Plan.

Re-elected chairman, national committee, World University Service of Canada.

**HILDA G. GIFFORD**

Chairman, Canadian copyright committee, Canadian Library Association.

Councillor, Ontario Library Association.

Vice-president, Library Association of Ottawa.

E. E. GOLDSMITH

Secretary, committee on power capacitors, Canadian Standards Association.

JOHN HART

Chairman, committee on electrical insulation, Canadian Standards Association.

Chairman, associate committee on electrical insulation, National Research Council.

J. M. HOLMES

Member of executive, Ottawa section, Chemical Institute of Canada.

MICHAEL HORNYANSKY

Children's Book of the Year medal, 1959, for *The Golden Phoenix*, from Canadian Association of Children's Librarians.

Disk-jockey for Renaissance music, CBC Radio *Trans-Canada Matinee*, four programs in March, 1960.

W. H. KESTERTON

Member, Canada Foundation assessment committee for Canada Council journalist-broadcaster-film maker scholarships.

J. A. LOATES

Secretary-treasurer, University Counselling and Placement Association.

Board member, Ottawa Personnel and Guidance Association.

R. O. MACFARLANE

Chairman, Manitoba Royal Commission on Education.

Associate Director, senior officers course, Civil Service Commission.

Vice-chairman, editorial committee, Canadian Geographical Journal.

Member, Canadian Legion education services committee.

Member, executive committee, Canadian Political Science Association, Ottawa chapter.

Member, Canadian Citizenship Council.

Member, Social Science Research Council.

R. L. McDOUGALL

Co-director, National Federation of Canadian University Students second national seminar, Montreal, September, 1960.

Delegate, Ontario Association on Curriculum Development, Toronto.

J. A. B. McLEISH

Vice-president, Ottawa YMCA.

Member, national council, Canadian Association of Directors of Extension and Summer Schools.

Vice-president, United Nations Society of Ottawa.

Chairman, national education committee, United Nations Association in Canada.

Member, board of governors, Elmwood School.

S. R. MEALING

Alternate member, Public Records Committee.

Editor, Historical Booklets Series, Canadian Historical Association.

G. C. MERRILL

Chairman, program committee, Canadian Association of Geographers, annual meeting, Kingston, 2-4 June, 1960.

J. M. MORTON

Chairman of session on liberation of metals, Inorganic Chemistry Symposium, Mines Branch, 19 September, 1949.

F. H. NORTHOVER

Special consultant in applied mathematics to Defence Research Board.

JOHN PORTER

Member, Social Science Research Council of Canada.

Member, executive council, Canadian Political Science Association.

Member, board of trustees, Alcoholism Research Foundation, Ottawa branch.

MARCEL RIOUX

Co-director, National Federation of Canadian University Students second national seminar, Montreal, September, 1960.

Chairman, French section, Canadian Institute of Public Affairs.

Member, executive council, French section, Association for the Advancement of Science.

Member, board of governors, Centre de Recherches en Relations Humaines, Montreal.

Editor-in-chief, *Anthropologica*.

D. C. ROWAT

Awarded Canada Council Senior Research Fellowship for study of governments of western Europe, for 1960-61.

Member, research and program committees, Institute of Public Administration of Canada.

Member, executive committee, Ottawa regional group, Institute of Public Administration of Canada.

Member, program committee, Canadian Political Science Association.

Chairman, committee on university government, Canadian Association of University Teachers.

JOHN RUPTASH

Delegate to decennial symposium, and official opening, of Institute of Aerophysics Laboratories, University of Toronto, 14-16 October, 1959.

R. J. SIMPLE

Member, mathematics commission, Ontario Teachers' Federation.

D. A. SMITH

Member of council, Ottawa Field Naturalists' Club.

ELLENOR SWALLOW

Member of council, Classical Association of Canada.

Vice-president, Ontario Classical Association.

F. R. WAKE

Secretary-treasurer, Canadian Psychological Association.

Vice-president, Citizen's Committee on Children.

R. A. WENDT

Chairman, Advisory Committee on Selection and Training Problems, Defence Research Board.

Consultant to psychiatric research unit, Defence Research Board.

*Public addresses given to audiences other than those making up official courses at the University.*

## Public Addresses

### D. G. ANGLIN

"Problems of Peace and Progress in British Tropical Africa", CBC Radio *Midweek Review*, 29 July, 1959.

"The Commonwealth Conference", CBC Television *Viewpoint*, 4 May, 1960.

### A. M. BEATTIE

"University Aims and Standards", Council of Home and School Association, 26 October, 1959.

"The Verse Drama of T. S. Eliot", Secondary School Teachers of English, 30 October, 1959.

"Three Aspects of Canadian Poetry", Association of Ottawa Public School Principals and Inspectors, 2 November, 1959.

"The Teaching of Grammar", symposium, Ottawa Public School Teachers' Institute, 18 March, 1960.

"Social Criticism in Canadian Literature of the Thirties", seminar on *The Angry Thirties*, Carleton University, 7 April, 1960.

### A. D. DUNTON

"Higher Education in the 1960's", Rotary Club of Ottawa, 24 August, 1959.

"Canada's Mindpower", Insurance Institute of Ontario, Toronto, 28 October, 1959.

"Carleton and the Future", Chartered Accountants Club of Ottawa, 12 November, 1959.

"The Low Place of Higher Education", CBC Radio *Our Special Speaker*, 15 November, 1959.

"Education Will Tell", Montreal Ad & Sales Club, 18 November, 1959.

"What Kind of Higher Education?", Deep River Science Association, 27 January, 1960.

"Literature and the Arts", St. James Literary Society, Montreal, 16 February, 1960.

"From a Young Sister", Queen's University Annual Faculty Club Dinner, 1 April, 1960.

#### WILFRID EGGLESTON

"Some Problems of Editing", Society of Technical Writers and Editors, Eastern Ontario chapter, 16 October, 1959.

"The Joys of Authorship", Canadian Authors' Association, Montreal, 7 December, 1959.

"Journalism and Christian Ethics", University of Religion, Chalmers United Church, 1 February, 1960.

"Recollections of a Journalist", Men's Association, St. James United Church, 11 May, 1960.

"Looking Forward in Communications", Canadian Public Relations Society, 12 May, 1960.

"Our Cultural Heritage", Alliance Canadienne, annual national convention, 22 May, 1960.

#### H. E. ENGLISH

"The Organization of the Canadian Food Industry", New England Agricultural Economics Council, Macdonald College, Ste. Anne de Bellevue, Quebec, 14 June, 1960.

#### D. M. L. FARR

"The Teaching of History", Ontario Secondary School Teachers' Federation, district convention, Renfrew, 30 October, 1959.

"The Development of Archival Institutions in Canada", archives section, Canadian Historical Association, annual meeting, Kingston, 8 June, 1960.

"Canadian History", two lectures at Management Seminar in Canadian-United States Studies, Goddard College, Plainfield, Vermont, 21 and 22 June, 1960.

J. C. FORSTER

"Andalucía", Spanish sub-section, Ontario Modern Language Teachers' Association, Easter convention, 19 April, 1960.

J. A. GIBSON

"Transportation Out of Canada, 1837-38", Transportation Club of Ottawa, 26 November, 1960.

"The Impact of World Events on Canada in the Thirties", seminar on *The Angry Thirties*, Carleton University, 5 April, 1960.

"A Tall View of Carleton University", Carleton University Alumni Association, Toronto, 10 May, 1960.

"The Evolution of Canadian Foreign Policy", National Defence College, Kingston, 9 June, 1960.

E. E. GOLDSMITH

"Reforming Education", Quinte District Secondary School Teachers' Association, Picton, 5 February, 1960.

MICHAEL HORNYANSKY

"The Use and Abuse of Language", Systems and Procedures Association, 1959 seminar, Toronto, 21 October, 1959.

"Eliot's *Four Quartets*", Unitarian Church, 15 November, 1959.

"Darwinism in Literature", lecture in series commemorating centenary of publication of *The Origin of Species*, Carleton University, 12 December, 1959.

W. I. ILLMAN

"Tomato Anthracnose", Eastern Ontario regional group, Canadian Phytopathological Society, 18 November, 1959.

"You and Your Fish", Ottawa Valley Aquarium Society, 25 February, 1960.

"Some Curious Aspects of Conidial Germination in *Glomerella*", Ottawa Valley branch, Canadian Society of Microbiologists, 18 March, 1960.

A. H. LIGHTSTONE

"Symbolic Logic with Applications" and "The Construction of Number Systems", two lectures in series on modern mathematics, Ontario Secondary School Teachers' Federation, District 26, 19 and 26 March, 1960.

R. O. MACFARLANE

"Objectives in Education", Ottawa Home and School Council, 26 October, 1959.

"Manitoba Royal Commission on Education", Canadian Conference on Education, Toronto, 2 November 1959; Public Personnel Association, Ottawa, 19 April; Manitoba Alumni Association, Ottawa, 12 May, 1960.

"Changes in Curriculum", Education Research Committee, Ottawa, 8 December, 1959.

"Canadian Federalism", Canadian Labour Congress, 26 January, 1960.

M. S. MACPHAIL

"Inequalities", lecture in series on modern mathematics, Ontario Secondary School Teachers' Federation, District 26, 12 March, 1960.

R. L. McDOUGALL

"The British Tradition in Canada", National Federation of Canadian University Students, second national seminar, Montreal, 31 August, 1960.

J. A. B. McLEISH

"The Universities and Student Aid", Ottawa Business and Professional Women's Club, Ottawa, 21 November, 1959.

"The Problem of Student Aid", municipal chapter, I.O.D.E., 23 January, 1960.

"Carleton: Past and Present", West Ottawa Rotary Club, 21 April, 1960.

"University Education—Is it a Right or a Privilege?", Eastern Ontario Conference of University Women's Clubs, Belleville, 27 May, 1960.

S. R. MEALING

"What the University Expects of Freshmen in History", history section, Ottawa High School Teachers' convention, 30 October, 1959.

"The England of 1760 and its Influence on Canada", Canadian Alliance, annual national convention, Ottawa, 21 May, 1960.

M. P. MÉLÈSE

"Histoire des Théâtres de Paris", Alliance française, Ottawa, 22 October, 1959; Ste. Hyacinthe, 30 November, 1959; Toronto, 4 January, 1960.

"A propos de *Canada, deux peuples, une nation*", CBC Television, 28 October, 1959; Alliance canadienne, Ottawa, 26 November, 1959.

"Les comédies-ballets de Molière", University of Ottawa, 11 November, 1959.

"Etat présent des Etudes moliéresques", University of Toronto, 4 December, 1959.

"Farce et comédie dans l'oeuvre de Molière", University of Toronto, 7 December, 1959.

"La vie du théâtre au temps de Molière", Institut français, New York, 15 December, 1959; Alliance française, Kingston, 28 February, 1960.

"Un précurseur des vols intersidéraux: Cyrano de Bergerac", Société d'Etudes et de Conférences, Ottawa, 16 February, 1960.

G. C. MERRILL

"Recent Land Development in Coastal British Guiana", Canadian Association of Geographers, annual meeting, Kingston, 2 June, 1960.

J. S. MOIR

"Some Patterns of Higher Education in Canada", Public Archives of Canada Historical Society, 2 May, 1960.

H. H. J. NESBITT

"Relationship and Affinities in the Arachnida", Ottawa Field Naturalists' Club, 10 March, 1960.

"Darwinism", inaugural lecture in series commemorating centenary of publication of *The Origin of Species*, Carleton University, 20 November, 1960.

F. H. NORTHOVER

"The Diffraction of Electric Waves around a Finite, Perfectly Conducting Cone", Canadian Mathematical Congress—Royal Society of Canada joint meeting, Kingston, 4 June, 1960.

"Electromagnetic Wave Propagation in Ionised Media", International Symposium on Electromagnetic Theory, University of Toronto, 19 June, 1959.

E. M. OPPENHEIMER

"The Relevance of Schiller", commemorative address, bicentenary of Schiller's birth, Carleton University, 2 December, 1959.

L. M. READ

"Martin Buber's 'I and thou'", Unitarian Church, 29 November, 1959.

J. E. RIDDELL

"A Review of Geochemical Prospecting Practice in Glaciated Precambrian Terrains", American Institute of Mining Engineers, annual meeting, New York, 16 February, 1960.

"Primary Reconnaissance Geochemical Surveys in Renfrew, Ripon and Shawinigan Areas", Geological Association of Canada, annual meeting, Toronto, 26 April, 1960.

MARCEL RIOUX

Four programs on CBC Television, French network: "L'Oeuvre de Teilhard de Chardin", 13 October, 1959; "Quatre Enfants du Monde", 12 May; "L'étude des Iroquois", 17 May; "La Préhistoire du Canada", 31 May, 1960.

D. C. ROWAT

"Problems of Citizenship", seminar of Ottawa Citizenship Council, 16 April, 1959.

"New Patterns of Administration", Municipal Clerks' and Finance Officers' Association of Ontario, 24 June, 1958.

"Your Local Government", Citizens' Association, Carleton Place, 17 November, 1959.

"Does Ottawa Need the Manager Plan?", Ottawa Local Council of Women, 25 April, 1960.

Series of CBC Television talks on *Civic Affairs*: "Efficiency at City Hall", 19 November; "The Restriction on Municipal Voting", 3 December, 1959; "The Future of Ottawa's System of City Government", 5 January; "Should Ottawa Have the Manager Plan?", 3 May; "The Reform of the Board of Control System", 2 June, 1960.

JOHN RUPTASH

"Challenges in Engineering Education", Canadian Institute of Mining and Metallurgy, Ottawa branch, 23 September, 1959.

"Trends in Engineering Education and Employment", National Research Council, science association, 25 February, 1960.

D. A. SMITH

"Territorial Behaviour in Birds", Ottawa Field Naturalists' Club, 10 March, 1960.

J. M. THOMPSON

"The Dead Sea Scrolls and Christian Faith", St. Peter's Anglican Church, Men's Association, 17 March, 1960.

W. M. TUPPER

"The Genesis of the Sulfide Deposits of Northern New Brunswick—an interpretation based on sulfur isotope studies", American Institute of Mining, Metallurgical and Petroleum Engineers, annual meeting, New York, 14 February, 1960.

F. R. WAKE

"Normal Aggression and Delinquency", Maritime Psychological Association, Halifax, 17 September, 1959.

BERNARD WAND

"Evolution and the Basis of Moral Principles", lecture in series commemorating centenary of publication of *The Origin of Species*, Carleton University, 28 November, 1959.

R. A. WENDT

"Fechner's Contribution to Psychology", Canadian Psychological Association, annual meeting. Kingston, 3 June, 1960.

J. C. S. WERNHAM

"The Religious Controversy", lecture in series commemorating centenary of publication of *The Origin of Species*, Carleton University, 21 November, 1959.

FRANK WIGHTMAN

"Isotopic Studies on the Biosynthesis of Indole Auxins and Related Compounds in the Cabbage Plant", Canadian Society of Plant Physiologists, Toronto, 2 June, 1960.

D. R. WILES

"Preferential Oxidation of Polonium in Lead-Polonium Alloys", Chemical Institute of Canada, annual conference, Ottawa, 13 June, 1960 (paper prepared with S. S. Sheinin).

"A Vapour Pressure Study of Copper-Manganese Alloys at High Temperatures", Chemical Institute of Canada, annual conference, Ottawa, 13 June, 1960 (paper prepared with W. E. Mills and B.F. Peters).

W. L. Young

"Modern Techniques in Mineral Exploration", Optimist Club of Ottawa, 13 November, 1959.



# III. STATISTICS

## Benefactions Received, 1960-1961

### *Grants and Gifts for Current Operations*

|                        |               |
|------------------------|---------------|
| Province of Ontario    | \$ 400,000.00 |
| Government of Canada   | 255,752.58    |
| Annual Giving Programs | 37,685.02     |

### *Capital Grants and Gifts*

|                                                  |            |
|--------------------------------------------------|------------|
| Province of Ontario                              | 900,000.00 |
| Building and Development Campaign, 1957-1958     | 55,605.20  |
| Brooke Claxton Memorial Fund (for Library Books) | 2,200.00   |

### *Endowment Gifts*

|                                   |           |
|-----------------------------------|-----------|
| Laurentian Chapter I.O.D.E.       | 10,297.50 |
| Maurice Frederick Carty Bursaries | 1,000.00  |

### *Gifts—Unrestricted*

|                                                |          |
|------------------------------------------------|----------|
| International Nickel Company of Canada Limited | 1,330.00 |
| Union Carbide Canada Limited                   | 400.00   |
| Alumni Association of Carleton University      | 5,941.09 |

### *Gifts—Restricted*

|                                  |          |
|----------------------------------|----------|
| Alan B. Plaunt Memorial Lectures | 1,700.00 |
|----------------------------------|----------|

### *Gifts for Student Aid*

|                                               |        |
|-----------------------------------------------|--------|
| Scholarships                                  |        |
| Union Carbide Canada Limited                  | 800.00 |
| Ottawa Business and Professional Women's Club | 200.00 |
| University Women's Club                       | 100.00 |
| The Ottawa Citizen                            | 900.00 |

|                                                                   |          |
|-------------------------------------------------------------------|----------|
| International Nickel Company of Canada                            | 2,270.00 |
| Lord Dundonald Chapter I.O.D.E.                                   | 100.00   |
| Canadian Club                                                     | 200.00   |
| Regent Vending Machines Limited                                   | 200.00   |
| J. P. Bickell Foundation                                          | 1,200.00 |
| Canadian Electrical Supplies                                      | 100.00   |
| E. B. Eddy Company Limited                                        | 600.00   |
| Engineering Institute of Canada                                   | 150.00   |
| Ottawa Woman's Club                                               | 100.00   |
| Gavin Scott MacFarlane Memorial Scholarship                       | 200.00   |
| Duchess of Connaught Scholarship (Laurentian Chapter<br>I.O.D.E.) | 343.06   |

#### Bursaries

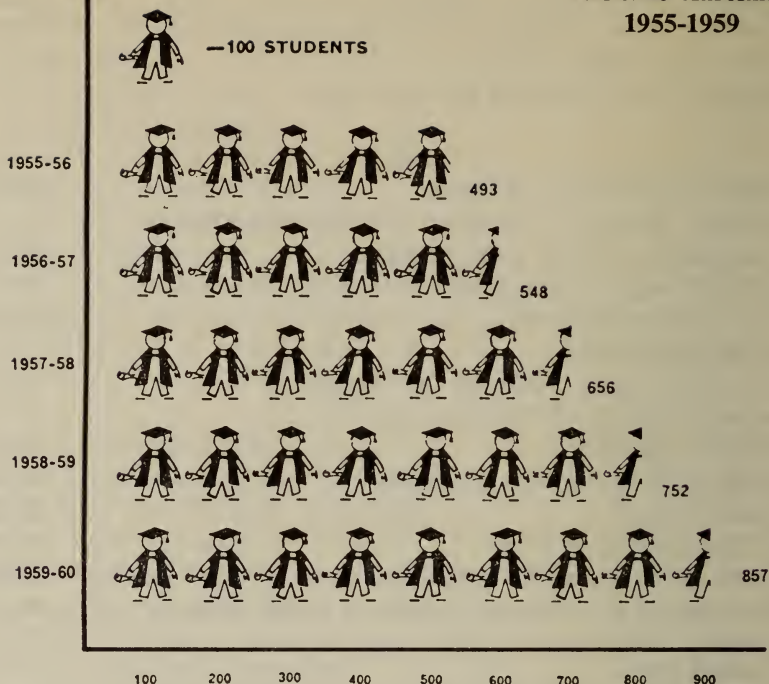
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|-------------------------------------------------|----------|
| Maurice Frederick Carty                         | 600.00   |
| Falkland Chapter I.O.D.E.                       | 100.00   |
| Jacob Freedman Charitable Foundation            | 806.15   |
| Charles Ogilvy Limited                          | 1,000.00 |
| A.T.A. Trucking Industry Educational Foundation | 800.00   |
| Arnhem Chapter I.O.D.E.                         | 100.00   |
| A.N.A.F. Veterans in Canada, Capital Unit 236   | 300.00   |
| Atkinson Charitable Foundation                  | 5,800.00 |
| Earnscliffe Chapter I.O.D.E.                    | 100.00   |
| J. P. Bickell Foundation                        | 600.00   |
| Canadian War Correspondents' Association        | 100.00   |
| Countess of Ashburnham Chapter I.O.D.E.         | 600.00   |
| Engineers' Wives Association                    | 200.00   |
| Faculty—for Faculty Bursaries                   | 723.00   |
| Gyro Club of Ottawa                             | 500.00   |
| Kiwanis Club of South Ottawa                    | 500.00   |
| Kiwanis Club of South Ottawa Ladies' Auxiliary  | 50.00    |
| Lions Club of South Ottawa                      | 200.00   |
| Loyal Order of Moose                            | 200.00   |
| National Memorial Chapter I.O.D.E.              | 100.00   |
| Ottawa Business and Professional Women's Club   | 200.00   |
| Protestant Girls' Club of Canada                | 100.00   |
| Quota Club of Ottawa                            | 200.00   |

|                                        |        |
|----------------------------------------|--------|
| Philemon Wright Chapter I.O.D.E.       | 100.00 |
| University Alumni Council of Ottawa    | 600.00 |
| Lady Perley Chapter I.O.D.E.           | 500.00 |
| Knights of Pythias Aurora Lodge No. 53 | 100.00 |

#### Prizes

|                                                                                     |        |
|-------------------------------------------------------------------------------------|--------|
| Engineering Institute of Canada                                                     | 150.00 |
| American Society of Heating and Air Conditioning<br>Engineers—Ottawa Valley Chapter | 100.00 |
| American Society for Metals                                                         | 25.00  |
| Frances Oakes Baldwin                                                               | 150.00 |
| Dr. M. Ralph Berke                                                                  | 25.00  |
| Canadian Institute of Mining and Metallurgy                                         | 25.00  |
| Chemical Institute of Canada                                                        | 25.00  |
| Catherine Daumery                                                                   | 70.00  |
| Faculty Club of Carleton University                                                 | 50.00  |
| Lilian I. Found                                                                     | 25.00  |
| 3rd Year Journalism Prize                                                           | 25.00  |
| Ottawa South Branch W.C.T.U.                                                        | 50.00  |
| Juniorettes of The National Council of Jewish Women                                 | 50.00  |
| Armand J. Villeneuve                                                                | 100.00 |
| Elizabeth White                                                                     | 35.00  |
| Ottawa Valley Aquarium Society                                                      | 50.00  |
| De Waan Foundation Essay Prize                                                      | 500.00 |
| W. I. Illman                                                                        | 20.00  |

## Full-time Enrolment 1955-1959



## Full-time Enrolment 1959-1960

Ottawa and District 590

Other Ontario Centres 160

Hull and District 21

Other Quebec Centres 38

Other Canadian Centres 16

Foreign 32

British West Indies

Colombia 1

Ethiopia 1

Germany 2

Ghana 1

Hong Kong 8

India 4

Malaya 3

Mexico 1

United States 2

Yugoslavia 1

Alberta 3

British Columbia 1

Manitoba 4

New Brunswick 2

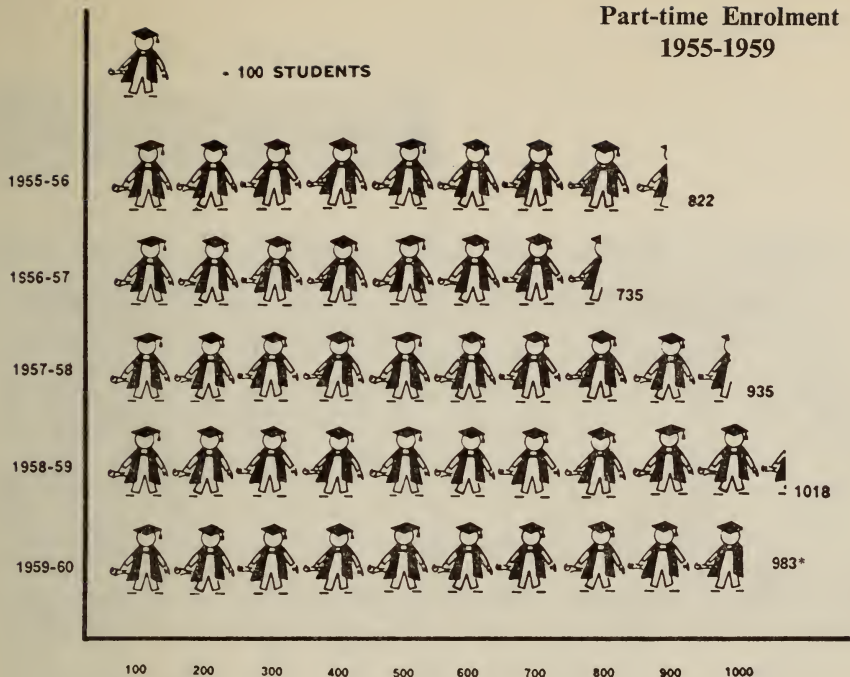
Nova Scotia 3

P.E.I. 1

Saskatchewan 2

**Total 857**

## Part-time Enrolment 1955-1959



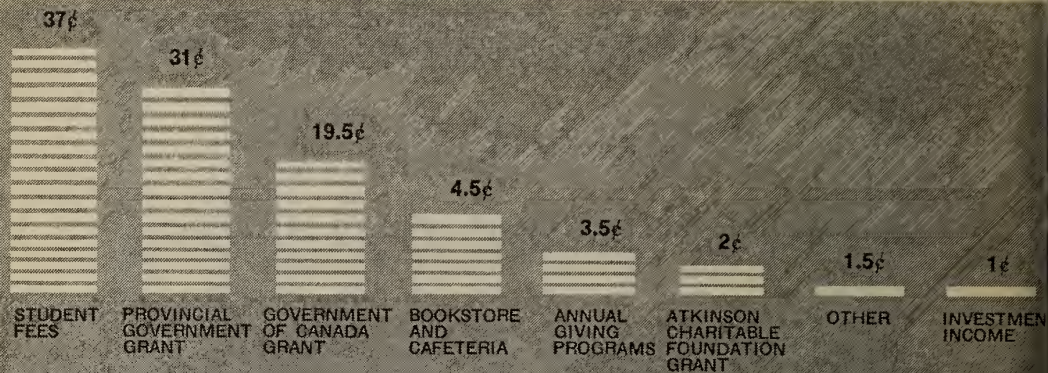
\*In addition, 469 students attended the summer session in 1959.

## Sources of Income

THE CARLETON DOLLAR

### WHERE IT CAME FROM

Current Income: \$1,306,939.00



### WHERE IT WENT

Current Expenditure: \$1,493,865.00

